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Tax Havens as the Solution to a High US Corporate Tax Rate

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Accounting Honors Capstone Paper

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ABSTRACT

There is been much press in recent years about US corporations moving overseas in order to avoid paying US taxes. This has resulted in a loss of tax revenue for the United States. This paper will discuss in detail the offshore tax avoidance techniques used by corporations—specifically transfer pricing and tax inversion—that have been successful in making corporations more profitable. It will then provide the perspectives of an auditor, enterprise, and user on these schemes, and suggest some possible solutions. Finally, it will present original research on the effectiveness and profitability of tax inversions with regard to income tax expense, net income, and the stock price.

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Introduction

The United States corporate tax rate is one of the highest in the world. As a result, US corporations are taking it upon themselves to resort to tax saving measures. As of 2014 it is estimated that $1.95 trillion in corporate profits is outside of the US, due to multinational companies taking full advantage of tax avoidance schemes.[1] Companies are avoiding taxes using primarily two means—transfer pricing and tax inversion. In the early stages of corporate tax avoidance, the primary tool was transfer pricing, which is still used today. This is when a company in a high tax rate jurisdiction sells to a related entity in a low tax jurisdiction with little or no gross profit. Then the entity in the low tax jurisdiction in turn sells the product to the consumer at a higher price.[2] Transfer pricing can also include intellectual property, copyrights, trademarks, and patents and many large technology companies and pharmaceutical companies use this method of tax avoidance.

Tax inversions are a more recent form of tax avoidance. Tax inversion occurs when multinational companies buy or set up a subsidiary company in a tax haven (a country which has favorable tax rates) and gives that company a form of Intellectual Property (IP) so that the company has substantial operations. [3] The subsidiary company becomes the parent company or a new parent company is created, thus creating a overall lower tax rate in a new country. Currently there are over three hundred multinational companies involved in transfer pricing and tax inversion. Twenty-two of the three hundred companies' involved in offshore tax avoidance schemes account for $984

[1] Richard Rubin, "Cash Abroad Rises $206 Billion as Apple to IBM Avoid Tax," Bloomberg.com, March 12, 2014, accessed December 13, 2014, http://www.bloomberg.com/news/2014-03-12/cash-abroad-rises-206-billion-as-apple-to-ibm-avoid-tax.html.
[2] Ibid
[3] Ibid

billion of the profits stored offshore, which is slightly more than 50 percent total. Governments around the world are attempting to cut tax rates to make shifting offshore less attractive.[4] More often than not, cash does not come back to the United States, thus there is little reinvestment in the US portion of the company.

The idea of a tax inversion began in 1982. In aggregate, 45 large companies have reincorporated abroad, more than 14 of them since 2012; many more are in progress.[5] Companies achieve this feat by acquiring a foreign company or creating an entity of any size, but which is normally one-fourth the size of the US company.. The company operates the same way and management stays in the United States. The only difference is that the company's official headquarters are in a tax haven.[6]

2012 featured a new trend of companies reincorporating in tax havens to avoid paying the 35% US Corporate tax rate. The government is playing catch up, now that there is nearly $2 trillion overseas. The lawmakers in Congress have the ability to change the tax code and make a major change to prevent tax inversion.[7] Congress has multiple options. One is to lower the corporate tax rate and help make the US more corporate friendly for doing business. The United States corporate tax rate is driving companies out of the United State that has resulted in tax savings through offshore tax avoidance techniques such as transfer pricing and tax inversons, in hope of making the company more profitable and attractive to investors.

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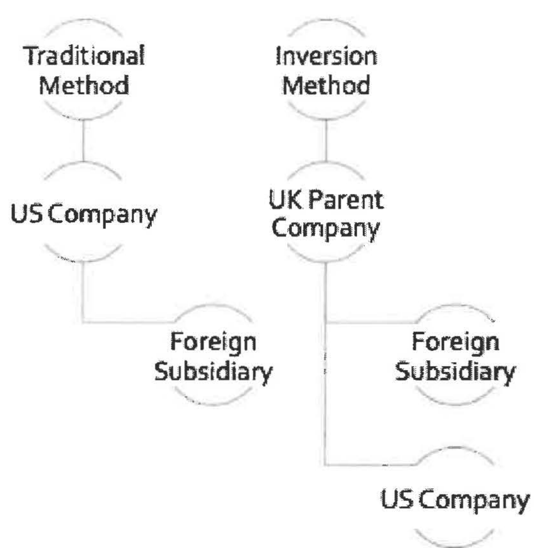
[4] By Jesse Drucker - May 13, 2010 15:00 EDT, "Companies Dodge $60 Billion in Taxes Even Tea Party Condemns," Bloomberg.com, May 13, 2014, accessed September 05, 2014, http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a7td7E8_4Eel&pos=10?fhuffbloomberg.
[5] "History of the Tax Inversion," US Tax Inversion, August 22, 2014, accessed December 13, 2014, http://www.ustaxinversion.com/2014/08/history-of-the-tax-inversion/.
[6] Ernst & Young LLC, *Worldwide Corporate Tax Guide* (New York, NY: Ernst & Young, 2007), accessed December 13, 2014, http://www.ey.com/Publication/vwLUAssets/Worldwide_corporate_tax_guide_2014/$FILE/Worldwide%20Corporate%20Tax%20Guide%202014.pdf
[7] Kristina Peterson, "Report: Repatriation Tax Holiday a 'Failed' Policy," Wall Street Journal Online, October 10, 2011, accessed December 13, 2014, http://www.wsj.com/articles/SB10001424052970203633104576623771022129888.

Expanded Explanation and Definitions

Tax inversion - and transfer pricing are two terms associated with tax avoidance which are often confused. Tax inversion is the reincorporation of a company overseas in order to reduce the tax burden on profits earned abroad and in the United States. Often, a smaller foreign company will purchase the operations of a large US based corporation, which results in the dissolution of the US corporate entity.[8]

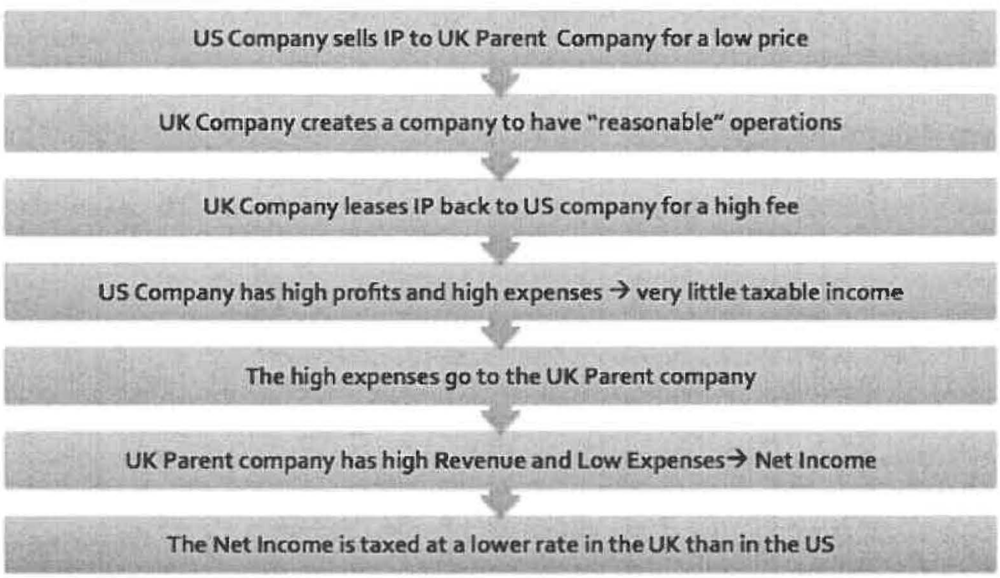
The chart below has two different family trees. The method on the left is how most companies in the United States are set up, which is a traditional method of most corporate family trees. The method on the right is how most inversions are occurring and the illustration demonstrates the tax inversion family tree. The method on the right assumes that the UK parent company has a low corporate tax rate, and the US company does not own any subsidiary companies.



[8] Worldwide Transfer Pricing Reference Guide, "Worldwide Transfer Pricing Reference Guide," *Worldwide Transfer Pricing Reference Guide*, 2014, accessed December 13, 2014, http://www.ey.com/Publication/vwLUAssets/EY-Worldwide-transfer-pricing-reference-guide-2014/$FILE/Worldwide%20transfer%20pricing%20reference%20guide%202014.pdf.

Transfer pricing is a legal method of tax avoidance used by multinational companies to avoid paying taxes to the United States Government. Multinational companies buy or set up a subsidiary company in a tax haven, which has favorable tax rates, and gives that company a form of Intellectual Property (IP). At the end of the year, a company will pay that subsidiary money in exchange for the IP. To clarify, the subsidiary is sold intellectual property by the parent company at a low price. Then the subsidiary leases the property back to the parent company at a high price, to reduce their pretax income.[9]

The chart below explains how transfer pricing occurs. The chart assumes that the UK Parent Company has a low corporate tax rate.



Tax evasion is an illegal practice where a person, organization, or corporation intentionally avoids paying the true tax liability.[10]

Repatriation – is when companies bring offshore profits earned, back into the United States.[11]

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[9] Ibid
[10] Ibid

Arms Length Principle – a standard adopted by the Organization for Economic Cooperation and Development) OECD which mandates that the result related parties obtain from an intercompany transaction approximates the result that uncontrolled parties would have obtained had they undertaken the same transaction under the same circumstances. The arms length principle presumes that different companies who trade with each other are under separate ownership, and they establish the fair market value of a product being purchased.

Comparable Profit Method (CPM) – a method that is used in the United States, which determines the arm's length consideration for transfers of intangible property.[12]

Effective Tax Rate (ETR) – the percentage obtained by dividing the taxpayers tax liability by his or her total taxable net income. It is a rate that reflects the rate at which a taxpayer would be taxed if his or her tax liability were taxed at a constant rate.[13]

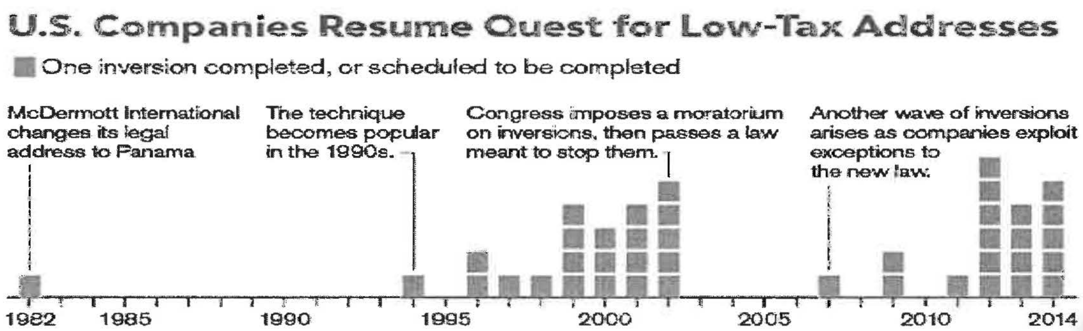
History of Tax Inversions

The beginning

Understanding tax inversions today requires an understanding of the past. Tax inversions have a cyclical nature which is shown the in graph below. The cyclical order of tax inversions begins with corporate inversions followed by government responses, which results in a decrease of corporate tax inversions, which is followed by a surge in corporate inversions, which is in part due to accountants, lawyers and corporate executives finding tax loopholes.[14] 1982 was the beginning of a recent trend of tax

[11] Ibid
[12] Ibid
[13] Ibid
[14] Reuven S. Avi-Yonah, "For Haven's Sake: Reflections on Inversion Transactions," *University of Michigan Law School Scholarship Repository* Articles (June 17, 2002), accessed February 22, 2015, http://repository.law.umich.edu/cgi/viewcontent.cgi?article=1813&context=articles.

inversions in the United States. McDermott International, an engineering and construction company, reincorporated in Panama to reduce their potential tax liability [15]In this inversion, McDermott International was purchased by its subsidiary, which was located in Panama. As a result of the inversion congress acted quickly and implemented IRS section 1248(i), which required companies parent companies to report income, even if they are owned by a subsidiary in a foreign country, unless it is a newly formed corporation. This stopped the first wave of inversions and there would not be another wave until 1994.[16]



17 Source: Data compiled by Bloomberg

The next inversions were in 1994 when Helen of Troy, a Texas corporation, underwent an internal restructuring, which resulted in an inversion. It was a successful inversion because it was moved under a newly created foreign corporation without an earnings and profits ("E&P") history" in a tax haven.[18] The company which has no

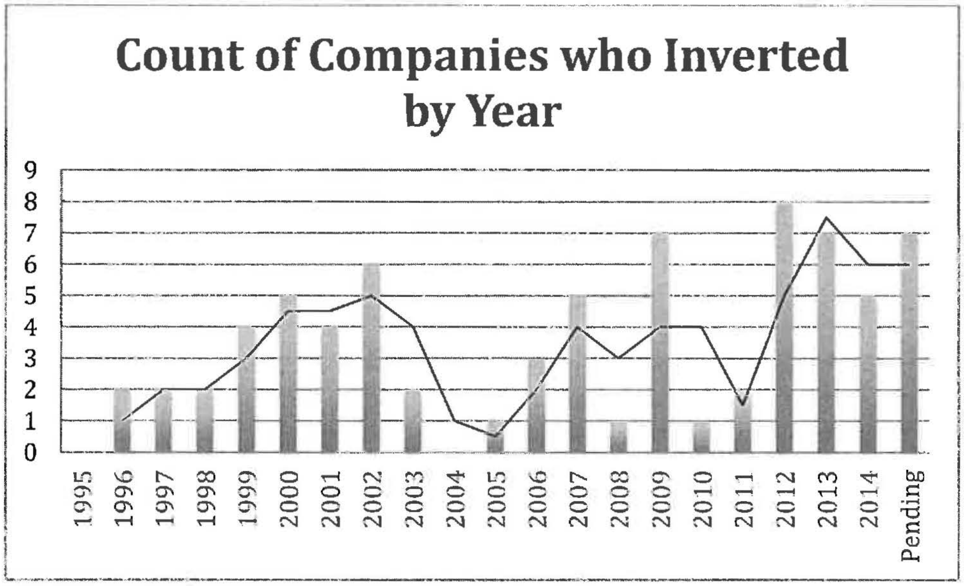
[15] Mindy Herzfeld, "Tax Analysts -- News Analysis -- What's Next in Inversion Land?," Tax Analysts -- News Analysis -- What's Next in Inversion Land?, June 16, 2014, accessed October 29, 2014, http://www.taxanalysts.com/www/features.nsf/Features/F817995A255AFD2485257CF900427B06?OpenDocument.
[16] Hal Hicks and Oshan James, "Select Corporate Migration and Combination Considerations in an Ever Changing Environment," *May–June 2014 Select Corporate Migration and Combination Considerations in an Ever Changing Environment*, Spring 2014, accessed February 21, 2015, https://www.skadden.com/sites/default/files/publications/ITJ_40-03_Hicks.pdf.
[17] Bloomberg Business, "Tracking Tax Runaways: Bloomberg Inversions Database," Bloomberg.com, December 12, 2014, accessed February 21, 2015, http://www.bloomberg.com/infographics/2014-09-18/tax-runaways-tracking-inversions.html.
[18] Ibid

earnings and profits history was a new corporation and in this case did not conflict with IRS Code Section 1248.[19] In response to the new type of inversion, the IRS and Congress proposed and passed Section 367 regulation. Again, congress acted rapidly and prevented many companies from inverting by blocking the technique used by Helen of Troy. However the first main wave of companies inverting began in the late 1990's.[20]

Late 1990's and early 2000's

The years between 1996 and 2003 experienced the greatest amount of tax inversions. The number of inversions is visualized in the graphs above and below. This represents the first major wave of using tax haven countries as a place to store profits overseas. Eighteen public companies inverted during this time, and many more private companies did so as well.[21] Companies often chose the Cayman Islands, Bermuda, or Barbados as their tax residence to take advantage of a low or nonexistent corporate tax rate.[22] Companies such as Tyco, Fruit of the Loom, Ingersoll-Rand, and Cooper Industries were larger companies who inverted during the first large wave of inversions. This was the first time that tax inversions began to have an impact on the corporate tax revenue of the United States, which resulted in congress taking active steps to prevent inversions and make them illegal and more difficult to achieve.[23]

[19] Ibid
[20] Ibid
[21] Ibid
[22] Ibid
[23] Ibid



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American Jobs Creation Act of 2004 and Section 7478

Due to the number of US companies actively inverting and seeking to invert, the American Jobs Creation Act of 2004[25]was enacted. President Bush signed the bill into law on October 22, 2004, and it is considered to be the largest tax revision since the 1986 Tax Reform Act. The American Jobs Act had section code 7478, which pertains to the subject of tax inversions. The bill was 600 pages long and contained many different changes intended for the tax code, which included business changes, depreciation changes, and in a few parts helped reduce tax avoidance by corporate inversion. The first part was intended to penalize and limit all future inversions through means of taxes and minimum foreign ownership, which was limited in two kinds of specifically defined inversion transactions.

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[24] Bloomberg Business, "Tracking Tax Runaways: Bloomberg Inversions Database," Bloomberg.com, December 12, 2014, accessed February 21, 2015, http://www.bloomberg.com/infographics/2014-09-18/tax-runaways-tracking-inversions.html.

[25] Capital Management, "BTR Capital Management," Corporate Inversions Tax Dodge or Astute Management?, August 20, 2014, accessed October 29, 2014, http://www.btrcap.com/2014/08/corporate-inversions-tax-dodge-or-astute-management/.

- "The first type of inversion that the act defines is a transaction in which (1) a foreign incorporated entity acquires (either directly or indirectly) substantially all of the properties of a U.S. corporation after March 4, 2003; (2) the former shareholders of the U.S. corporation hold 80 percent or more (by vote or value) of the stock of the foreign incorporated entity after the transaction; and (3) the expanded affiliated group of the foreign corporation does not have substantial business activities in the foreign corporation's country of incorporation when compared to the total business activities of the group."[26]
- "The second type of inversion that the Act defines is a transaction that would meet the exact definition of aforementioned type of inversion transaction except that the 80 percent ownership threshold would not be met."[27]

The law discouraged eighty percent of the previous types of transactions and it significantly increased the cost of inverting. However the act was criticized for allowing corporations who inverted before March 2003 to be exempt from this law. Many congressman were upset about this issue but could not do anything about it[28]. The anti inversion legislation targeted only two specific types of inversions, and for that reason was not a long term solution, but rather as a stopgap until a balanced and effective long term solution is researched and is implemented to make the US.[29] As noted in the graph above, the American Jobs Creation act had an immediate impact that is shown in the

[26] Eloine Kim, "Corporate Inversion: Will the American Jobs Creation Act of 2004 Reduce the Incentive to Re-Incorporate?," *Journal of International Business and Law*, 8th ser., 4, no. 1 (2005), accessed February 21, 2015, http://scholarlycommons.law.hofstra.edu/cgi/viewcontent.cgi?article=1130&context=jibl.
[27] Ibid
[28] Ibid
[29] Ibid

number of inversions between 2003 and 2004.[30] Companies found new ways of inverting in the late 2000's, and the recession only made an inversion more attractive.

2004 Tax Holiday

In addition to the American Jobs Creation Act, there was a tax holiday in 2004. The tax holiday allowed US corporations to repatriate overseas cash at a tax rate of 5%.[31] The required use of the funds mandated by the government from the 2004 tax break was meant to hire workers, conduct research, and prohibit stock buy backs. Companies who participated in the 2004 tax holiday were taxed at a 5 percent rate instead of the US 35% tax rate.[32] The intended use of the money from the tax holiday was a good idea in theory, but proved to be ineffective and unrealistic. The Wall Street Journal estimates that the 2004 tax holiday failed and cost the US treasury department roughly $3.3 billion in revenues over the course of 10 years or $330 million per year.[33] In addition to the economic failures, nine of the ten companies who repatriated cash and earnings continued to store profits overseas in hope of another tax holiday. In addition to the lost revenue, the companies who repatriated the funds later cut over 20,000 jobs between 2004 and 2007.[34] The 2008 recession was yet to come. The tax holiday is now regarded as a failed attempt by the government to promote US economic growth and retain all profits earned offshore to be stored in the United States.

The repercussions of the tax holiday were beneficial to the companies who performed tax inversions. Of the companies who participated in the tax holiday, roughly

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[30] Ibid
[31] Ibid
[32] Capital Management, "BTR Capital Management," Corporate Inversions Tax Dodge or Astute Management?, August 20, 2014, accessed October 29, 2014, http://www.btrcap.com/2014/08/corporate-inversions-tax-dodge-or-astute-management/.
[33] Ibid
[34] Ibid

a third of them repatriated over 90%[35] of their funds from the tax havens. Furthermore, the tax holiday incentivized companies to continue to keep profits offshore in the hope that in the long run, there would be an additional tax holiday.

2005-Present

Following the introduction of the American Jobs Creation act of 2004 and the tax holiday, the number of tax inversions between 2004 and 2006 was 4. However in 2007 a new cycle of tax inversions began, which caught the attention of the government and media. The recession in 2008 is a reason for the decrease in the number of inversions, as companies had more pressing matters to deal with. These included cutting costs and attempting to stay afloat.[36] Another reason the number of inversions slowed during 2008 was lack of an income tax expense because many of companies operated at a loss and as a result were not affected by the US corporate tax rate. However, the slowing did not last and as soon as profits picked up during late 2009, 2010, and 2011, companies realized the loopholes in the tax code and began to continue with tax inversions. Companies saw these loopholes and realized that inversion was an effective, attractive, and most importantly, legal way to avoid a tax burden. This was a great way to increase earnings after the financial crisis. Since 2010, many more companies have inverted and the United States is losing out on corporate tax revenue[37], as is shown in the graph below.

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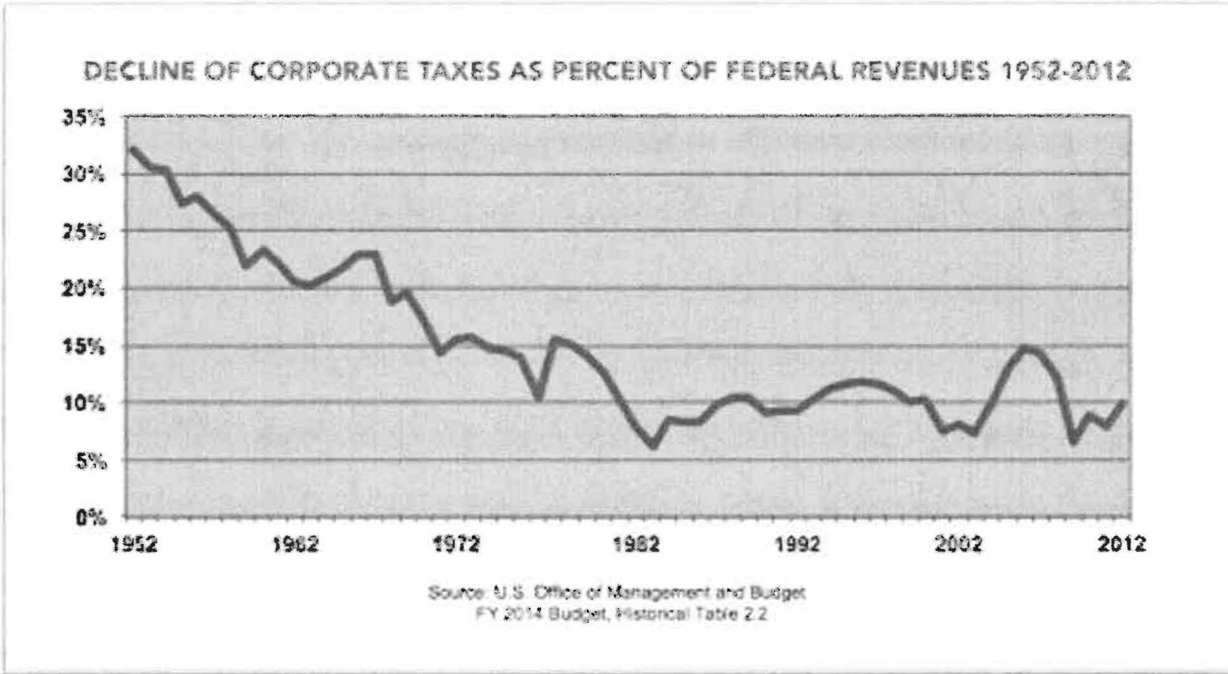
[35] Ibid
[36] Ibid
[37] Ibid



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Government tax revenue has historically been through a combination of personal tax revenue by the means of taxpayers and corporations. "In the 1950s corporate taxes covered anywhere from a quarter to a third of total federal spending; that percentage has declined steadily to less than 25% in the 1960s, 15% in the 1970s, and 10% today".[39] "Furthermore, it has been estimated that the total tax revenue that could be lost via future inversions over the next decade ranges from $17 billion to $20 billion. Assuming $2 billion per year, which compares with a current federal budget of $3.9 trillion, it represents a mere 5/100ths of 1%."[40] Given this, one of the most important questions is if the corporate tax revenue is a significant source of revenue? If

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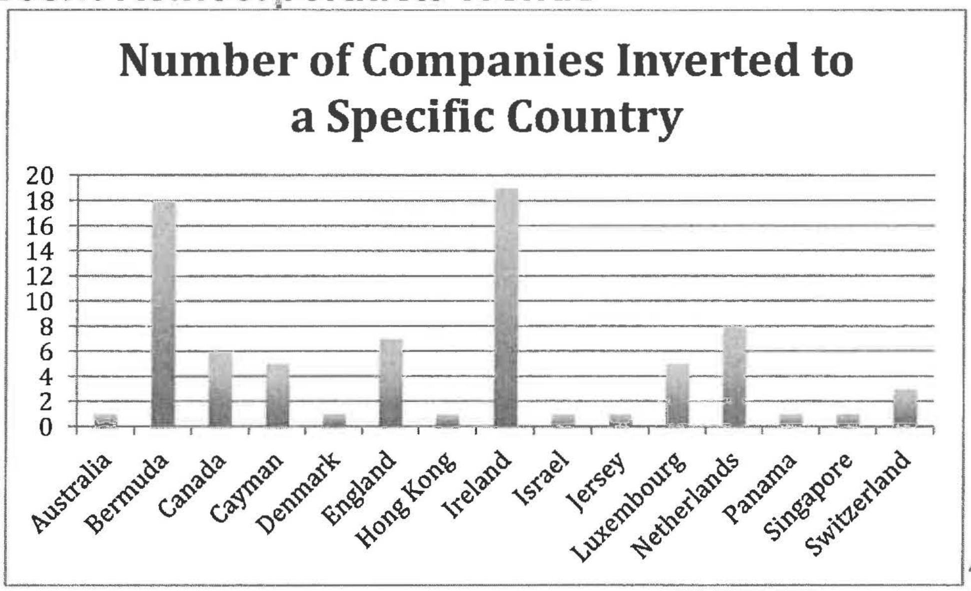
[38] Americans for Tax Fairness, "Corporate Tax Dodgers:10 Companies and Their Tax Loopholes," *Americans for Tax Fiarness*, 2014, accessed December 13, 2014, http://www.americansfortaxfairness.org/files/Corporate-Tax-Dodgers-Report-Final.pdf.
[39] Capital Management, "BTR Capital Management," Corporate Inversions Tax Dodge or Astute Management?, August 20, 2014, accessed October 29, 2014, http://www.btrcap.com/2014/08/corporate-inversions-tax-dodge-or-astute-management/.
[40] Ibid

corporate tax revenue is not significant, then why does stopping the corporate tax inversions actually matter?

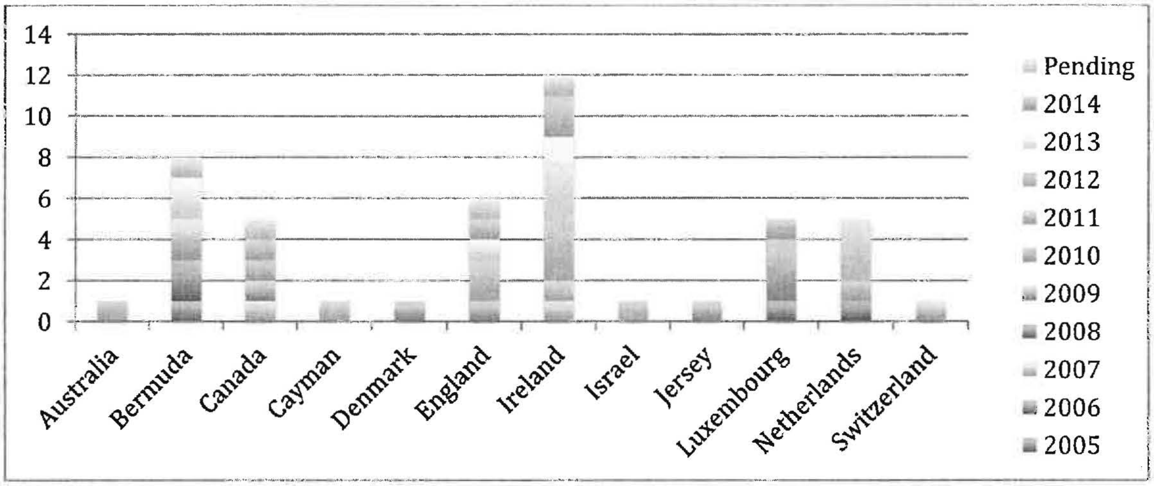
Recent Reincorporation Trends



[41]

The Graph above shows the number of companies who have inverted from the United States and have reincorporated in a foreign country. The two leaders are Ireland and Bermuda, followed by Luxembourg, Netherlands, England, Canada, and the Cayman Islands. However, this graph does not tell the full story. Treaties and new laws have come into effect, which have affected the trends of reincorporation and inversion. The chart below shows the number of inversions by country, and by year over the past 10 years.

[41] Bloomberg Business Ibid



[42]

There are numerous interesting trends in this graph. The first one is the number of recent inversions to Ireland. In total, Ireland has had 19 inversions, but between 2005 and 2014 (including pending inversions), Ireland has had a total of 12 inversions, which is nearly two thirds of its total inversions happening in the past 10 years. Two more interesting trends were the number of companies who inverted to Canada and England. Over the entire period of Canada's inversion period they have experienced 6 inversions and 5 of them have happened in the past 10 years. England has experienced similar results, which has had a total of 7 inversions with 6 of them coming in the past 10 years. In addition to England and Canada, Luxemburg has experienced all of their inversions in the past 10 years.

The United Kingdom

When analyzing the trend of corporate tax inversions, one of the most intriguing countries to look at is England. Similar to the United States, the United Kingdom also faced a migration of companies attempting to invert in an attempt to flee corporate tax

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[42] Ibid

rates[43]. Prior to 1980 the UK has a corporate tax rate of 52%, however that was cut over time between 1980 and 2008, when it became 28%.[44] However, the UK still had one of the highest tax rates in Europe, and they announced in 2010 that they are cutting taxes from 28% to 20% by 2015.[45] After these changes where announced, corporations in the UK stopped their attempts to invert and companies began inverting from the US to the UK. Of the six inversions, which have occurred in the past ten years, five of them have happened after 2010, the year the corporate tax rate was cut.[46]

Canada

One of the recent trends in tax inversion has been to find a way to Canada. Companies such as Burger King and Valeant Pharmaceuticals have recently moved their profits to Canada to avoid the US Corporate tax rate.[47] One of the reasons why Canada is attractive to US companies is that the government taxes the income earned within Canada.[48] In the United States there is a two-layered tax system. The first layer is when companies are taxed on revenue earned in the US. The second layer is taxes on the foreign profits.[49] However under Canada's tax rules, companies can escape the second layer of the US tax system. Canada's corporate tax rate is at 27%, which is lower than the United States. Overall, Canada has taken multiple steps to reduce their corporate tax rate, which has made them a more desirable country to reincorporate to.[50]

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[43] William McBride, "Tax Reform in the UK Reversed the Tide of Corporate Tax Inversions," Tax Foundation, October 14, 2014, accessed February 21, 2015, http://taxfoundation.org/article/tax-reform-uk-reversed-tide-corporate-tax-inversions.
[44] Ibid
[45] Ibid
[46] Ibid
[47] Scott Deveau and Eric Lam, "Deep Tax Cuts Opens Northern Front for U.S. Companies," Bloomberg.com, August 26, 2014, accessed February 21, 2015, http://www.bloomberg.com/news/articles/2014-08-25/tim-hortons-targeted-as-u-s-tax-inversion-heads-north.
[48] Ibid
[49] Ibid
[50] Ibid

Ireland

Ireland is known as one of the countries that has been a tax haven for many decades. Ireland has a corporate tax rate of 12.5%, which is about a third of the United States corporate tax rate and system.[51] There have been many companies who have inverted to Ireland for favorable tax rates. Companies such as Google, Apple, Twitter, Facebook, and many other large pharmaceutical companies have inverted.[52] However, many of these companies do not even pay the 12.5%, because under the Irish structure, there is something called the Double Irish Standard. The Double standard shifts royalty payments for Intellectual Property from an Irish subsidiary to another within Ireland, or to a country with no corporate income tax, such as the Cayman Islands or Bermuda.[53] Often times this cuts their effective tax rate to anywhere between 2%-5%. This type of inversion only works for companies who have intellectual property, which is mainly pharmaceutical or technology companies.[54]

The European Union, the OECD, and the Obama administration have been very vocal about their displeasure with Ireland's passive and incentivizing agreements with companies to reduce their corporate tax rate.[55] However, Ireland activists argued that Ireland does not have any natural resources, and a low corporate tax rate is how they bring in revenue and remain competitive.[56]

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[51] Stephen Castle and Mark Scott, "Ireland to Phase Out 'Double Irish' Tax Break Used by Tech Giants," The New York Times, October 14, 2014, accessed February 21, 2015, http://www.nytimes.com/2014/10/15/business/international/ireland-to-phase-out-tax-advantage-used-by-technology-firms.html?_r=0.
[52] Ibid
[53] Ibid
[54] Ibid
[55] The Economist, "Death of the Double Irish." The Economist, October 18, 2014, accessed February 21, 2015, http://www.economist.com/news/finance-and-economics/21625876-irish-government-plans-alter-one-its-more-controversial-tax.
[56] Ibid

On October 14, 2014 Ireland announced that they would disallow the creation of the Double Irish Standard in January of 2015, and by 2020 the use of the Double Irish standard would be disallowed.[57] This means the companies have five years to find a new way to find a way to cut avoid corporate tax rates. However, it goes without saying that Ireland's 12.5% corporate tax rate is lower than most of the world, and inverting is still a cost savings measure.[58]

Tax Inversion Original Research

Test 1

When doing research on tax inversions, there was a list of companies who inverted between 1982 and 2015. This list included the name of a company, the year they inverted, the country in which the inversion took place, and what happened to the company after they inverted. From that list I decided to take a sample of six companies and perform tests to evaluate the benefits of a tax inversion, and how they compared to a control group of similar competitors based in the United States. My criteria for choosing the sample was that they were public and had a history of operations which was at least 3 years prior to the inversion and were still in existence today. The list of companies is shown below, and the competitors the same color. For example Pentair Plc. is compared to Emerson Electric Company. Below are two chars comparing a few factors of each company.

[57] Robert W. Wood, "Ireland Corks Double Irish Tax Deal, Closing Time For Apple, Google, Twitter, Facebook," Forbes, October 14, 2014, =, accessed February 21, 2015, http://www.forbes.com/sites/robertwood/2014/10/14/ireland-corks-double-irish-tax-deal-closing-time-for-apple-google-twitter-facebook/.

[58] Ibid

Company	Year Inverted	Country of Inversion	Industry	Ticker
Pentair Plc. [59]	2011	Switzerland	Industrial Goods	PNR
Tim Hortons [60]	2009	Canada	Fast Food Chains	THI
Ensco Plc. [61]	2009	United Kingdom	Oil & Drilling	ESV
TE Connectivity Ltd.[62]	2011	Switzerland	Telecommunications	TEL
Rowan Companies Plc.[63]	2012	United Kingdom	Oil & Drilling	RDC
Eaton Plc.[64]	2012	Ireland	Industrial Goods	ETN
Emerson Electric Co.[65]	N/A	N/A	Industrial Goods	EMR
Panera Bread [66]	N/A	N/A	Restaurant Chain	PNRA
Helmerich & Payne [67]	N/A	N/A	Oil & Drilling	HP
Corning Inc. [68]	N/A	N/A	Electrical Components	GLW
Transocean Ltd.	N/A	N/A	Oil & Drilling	RIG
Parker Hannifin Corp	N/A	N/A	Industrials	PH

Company (Chart Continued From Above)	Number of Employees	Revenue in most recent year	Net Income in most recent year	Market Capitalization
Pentair Plc.	30000	7.5B	300M	12.3 B
Tim Hortons	100000	3.1B	400M	N/A

[59] Morningstar, "Pentair PLC," Income Statement for (PNR) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=PNR.
[60] Tim Hortons Inc., "5 Year Performance Consolidated," Tim Hortons, 2014, accessed February 23, 2015, http://www.timhortons.com/us/en/corporate/5-year.php.
[61] Morningstar, "Ensco PLC Class A," Income Statement for (ESV) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=ESV.
[62] Morningstar, "TE Connectivity Ltd," Income Statement for (TEL) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=TEL.
[63] Morningstar, "Rowan Companies PLC," Income Statement for (RDC) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=RDC.
[64] Morningstar, "Eaton Corp PLC," Income Statement for (ETN) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=ETN.
[65] Morningstar, "Emerson Electric Co," Income Statement for (EMR) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=EMR.
[66] Morningstar, "Panera Bread Co Inc Class A," Income Statement for (PNRA) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=PNRA®ion=usa&culture=en-US.
[67] Morningstar, "Helmerich & Payne Inc," Income Statement for (HP) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=HP.
[68] Morningstar, "Corning Inc," Income Statement for (GLW) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=GLW.

Ensco Plc.	9000	5B	1.4B	6.94B
TE Connectivity Ltd.	83000	13.3B	1.2B	28.59B
Rowan Companies Plc.	3500	1.5B	253M	2.99 B
Eaton Plc.	102000	22B	1.8B	33.68B
Emerson Electric Co.	115100	24.5B	2.2B	39.5 B
Panera Bread	40000	2.5B	0.2 B	4.8B
Helmerich & Payne	10400	3.9B	0.7B	7.0 B
Corning Inc.	30400	31.5B	1.9B	31.5 B
Transocean Ltd.	15100	9.4B	(941M)	13.2M
Parker Hannifin Corp	57450	13.3B	1.1B	17.1B

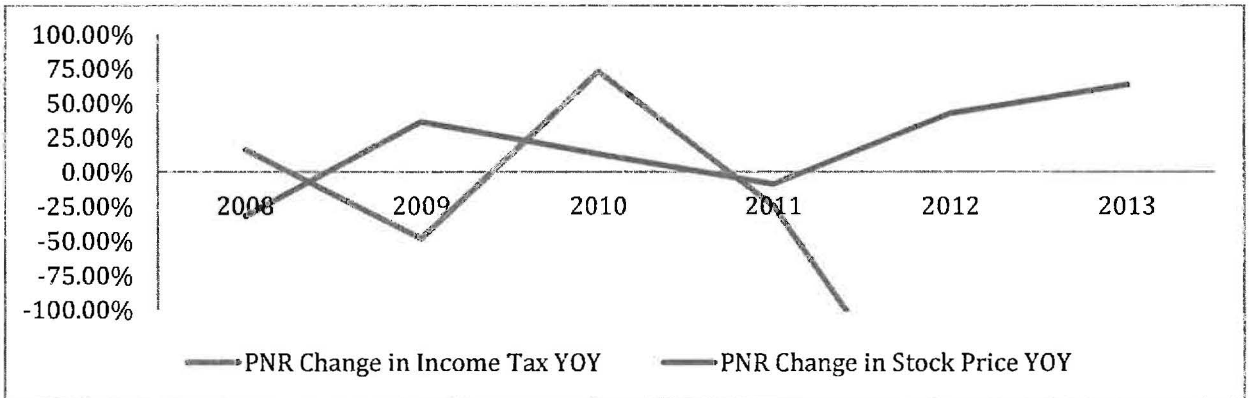
Hypothesis: The income tax expense during an inversion will affect the stock price and have an inverse relationship. This means that if the income tax expense increases, the stock price should decrease or of the income tax expense decreases the stock price should increase. In addition, the companies who go through an inversion should have a decrease in income tax expense which should result in an increase in stock price.

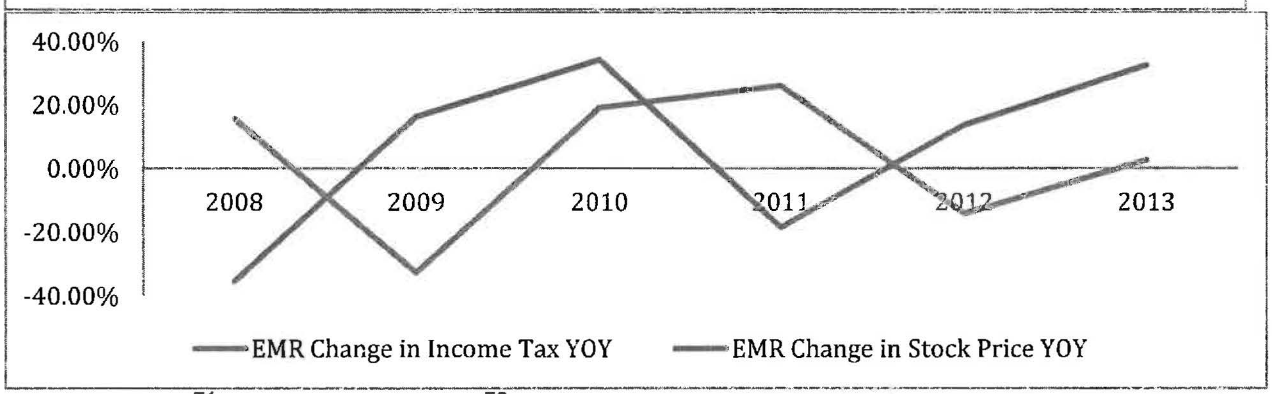
Method:

1. Find a company who was involved in an inversion, and a similar sized competitor located in the United States.
2. Take the income tax expense year over year and find an increase or decrease for each company.
3. Take the stock price year over year and find an increase or decrease for each company.
4. Compare the increase/decrease in income tax with the increase/decrease in stock price.
5. I repeated steps 2-4 for every company pair.

Pentair Plc.[69] vs. Emerson Electric Co. [70]

	2008	2009	2010	2011	2012	2013
PNR Change in Income Tax YOY	16.13%	-48.15%	73.21%	-24.74%	-208.22%	-332.91%
PNR Change in Stock Price YOY	-32.00%	36.46%	13.03%	-8.82%	42.72%	63.52%
EMR Change in Income Tax YOY	15.58%	-32.69%	19.11%	26.12%	-14.21%	2.60%
EMR Change in Stock Price YOY	-35.39%	16.36%	34.20%	-18.51%	13.67%	32.52%

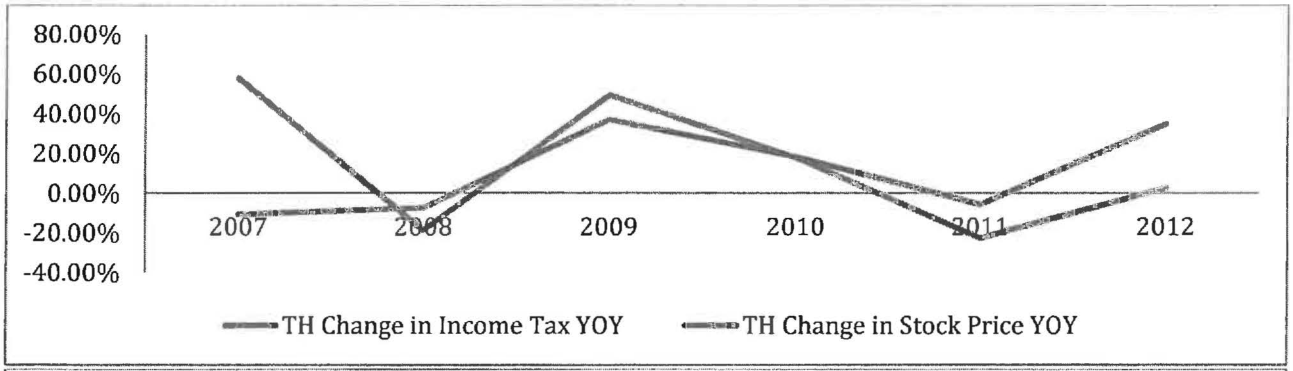


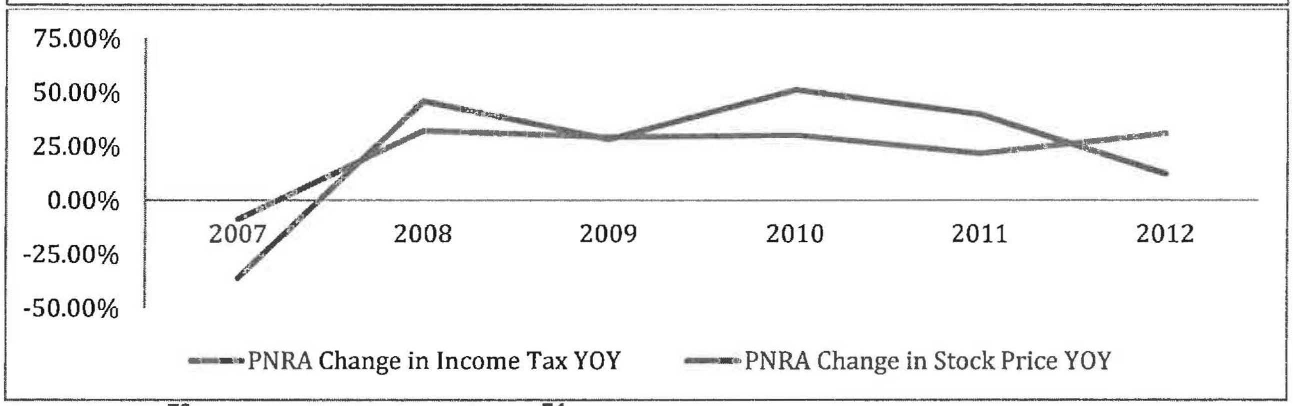


Tim Hortons[71] vs. Panera Bread[72]

	2007	2008	2009	2010	2011	2012
TH Change in Income Tax YOY	57.95%	-18.71%	49.56%	17.75%	-22.61%	2.60%
TH Change in Stock Price YOY	-10.70%	-7.40%	37.10%	18.32%	-5.72%	34.89%
PNRA Change in Income Tax YOY	-8.82%	32.26%	29.27%	30.19%	21.74%	30.95%
PNRA Change in Stock Price YOY	-35.93%	45.84%	28.14%	51.20%	39.76%	12.29%

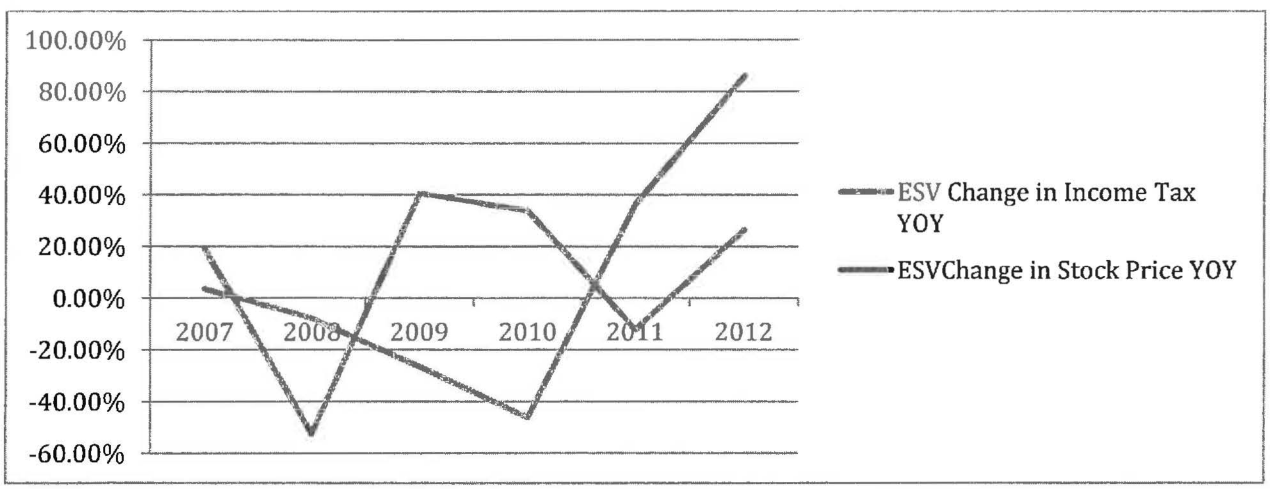
[69] Ibid, Pentair Plc.
[70] Ibid, Emerson Electric Co.
[71] Ibid, Tim Hortons
[72] Ibid, Panera Bread



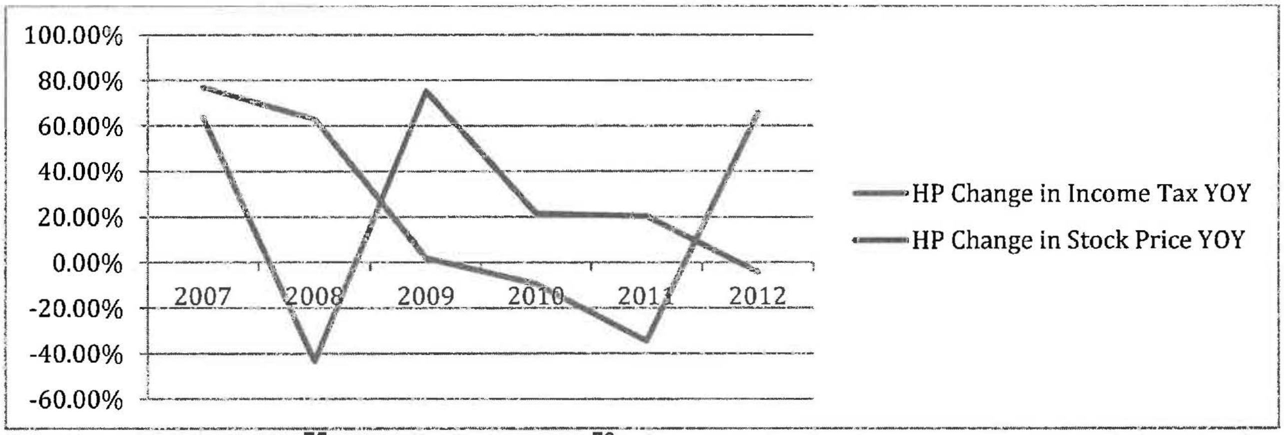


Ensco Plc.[73] vs. Helmerich & Payne[74]

	2007	2008	2009	2010	2011	2012
ESV Change in Income Tax YOY	3.56%	-7.63%	-26.45%	-46.07%	36.46%	86.26%
ESVChange in Stock Price YOY	19.10%	-52.38%	40.68%	33.65%	-12.10%	26.34%
HP Change in Income Tax YOY	77.01%	62.99%	1.99%	-9.38%	-34.48%	65.79%
HP Change in Stock Price YOY	63.75%	-43.22%	75.30%	21.56%	20.38%	-4.03%

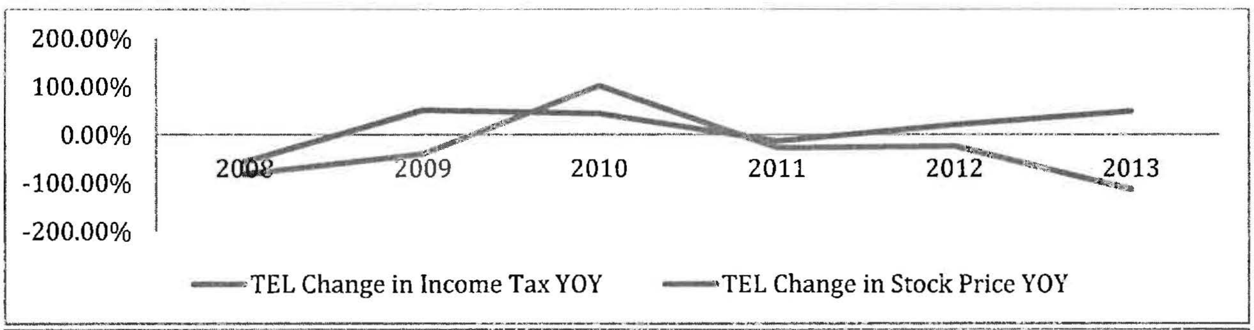


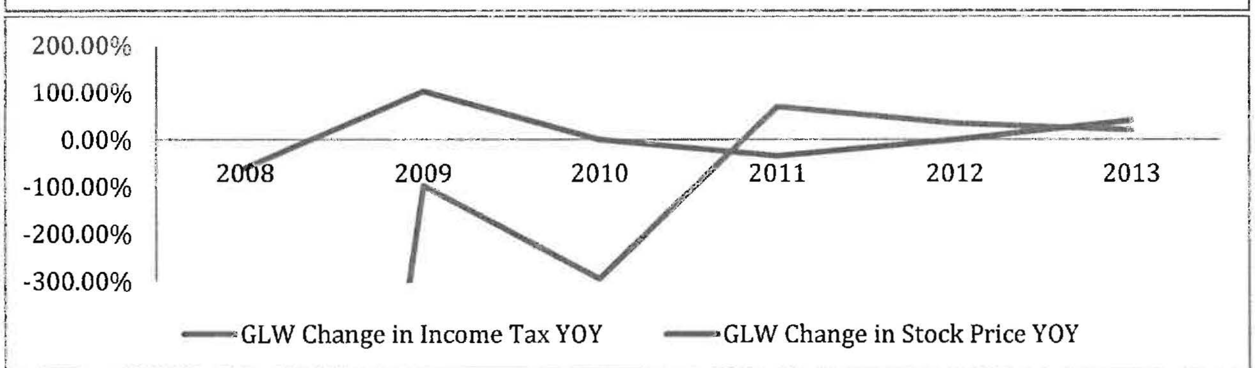
[73] Ibid, Ensco Plc.
[74] Ibid, Helmerich & Payne



TE Connectivity Ltd[75]. vs. Corning Inc. [76]

	2008	2009	2010	2011	2012	2013
TEL Change in Income Tax YOY	-81.36%	-39.33%	101.62%	-27.06%	-23.76%	-113.21%
TEL Change in Stock Price YOY	-56.34%	51.45%	44.20%	-12.97%	20.48%	48.46%
GLW Change in Income Tax YOY	-2648.31%	-97.58%	-295.08%	70.12%	35.17%	20.62%
GLW Change in Stock Price YOY	-60.28%	102.62%	0.05%	-34.68%	0.00%	41.20%





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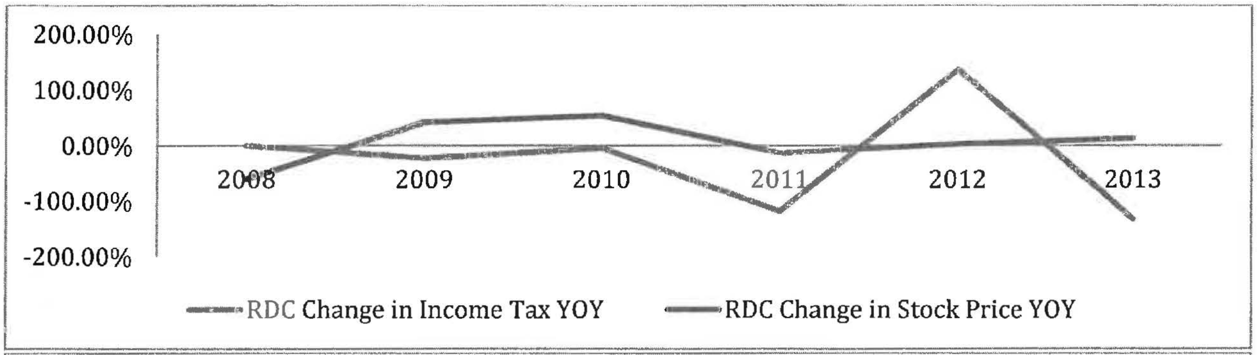
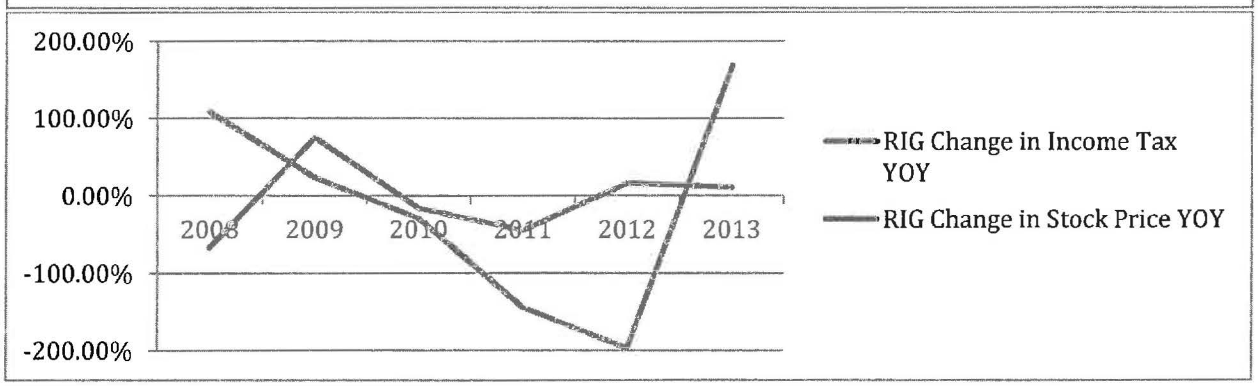
[75] Ibid, TE Connectivity Ltd.
[76] Ibid, Corning Inc.

Rowan Companies Plc.[77] vs. Transocean Ltd. [78]

	2008	2009	2010	2011	2012	2013
RDC Change in Income Tax YOY	0.15%	-22.60%	-4.45%	-118.06%	136.79%	-131.55%
RDC Change in Stock Price YOY	-59.71%	42.39%	54.20%	-13.12%	3.10%	13.08%
RIG Change in Income Tax YOY	108.26%	23.41%	-29.48%	-143.97%	-196.91%	168.54%
RIG Change in Stock Price YOY	-66.99%	75.24%	-16.05%	-44.77%	16.33%	10.66%

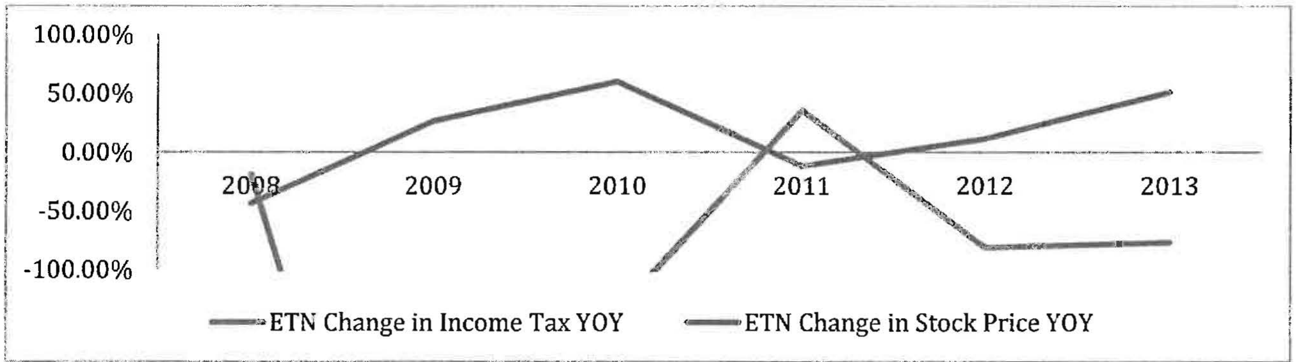


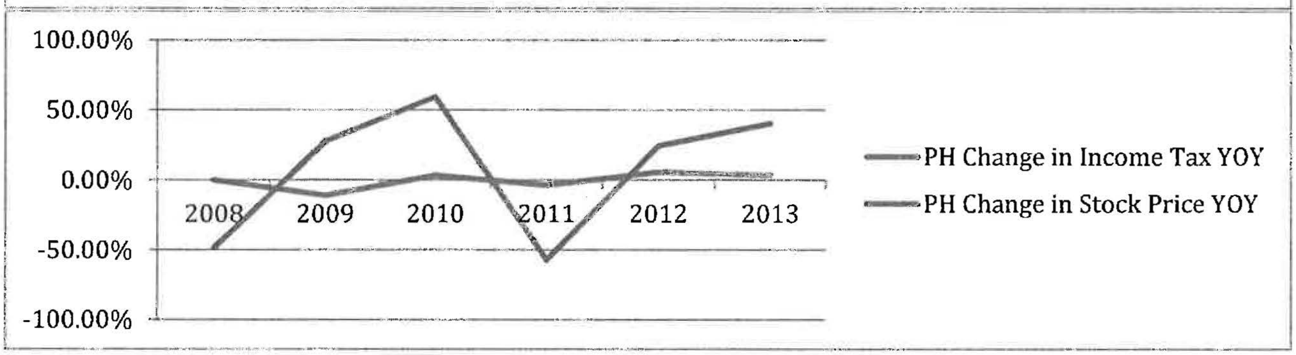


Eaton Plc.[79] vs. Parker Hannifin Corporation[80]

	2008	2009	2010	2011	2012	2013
ETN Change in Income Tax YOY	-18.71%	-522.62%	-135.31%	35.44%	-80.85%	-76.44%
ETN Change in Stock Price YOY	-43.51%	26.66%	60.17%	-11.65%	11.55%	51.23%
PH Change in Income Tax YOY	0.08%	-10.84%	3.54%	-3.73%	5.74%	3.43%
PH Change in Stock Price YOY	-48.73%	27.98%	59.56%	-57.12%	24.47%	40.49%

77 Ibid, Rowan Companies Plc.
78 Ibid, Transocean Ltd.
79 Ibid, Eaton Plc
80 Ibid, Parker Hannifin Corporation





Conclusion:

Through the naked eye looking at inverse relationship is easy to spot, but it is difficult to find a trend. In all of the charts it is difficult to see a strong inverse relationship and the inversion companies do not seem like they are doing much better than the US companies who have not inverted. Below is a chart of the count of inverse relationships, in order to summarize all of the data.

Period After Inversions	
Inverting Companies	8
US Companies (Control Group)	6
Period Before Inversion (including year of inversion)	
Inverting Companies	9
US Companies (Control Group)	7
Overall	
Inverting Companies	17
US Companies (Control Group)	13

When analyzing the counts of the inverse relationships the period after inversions is 8 compared to the control group of 6. This is similar to the inverse relationship prior to the inversion of with the inversion group having a count of 9 and the control group having a count of 7. From this analysis, one can conclude that the decrease or increase on income tax does not have a relationship or impact on the stock price of a company. Henceforth, the hypothesis was disproved and the income tax expense has no affect on the stock price of a company, and as a result there is no determination if a company's stock price will increase as a result of an inversion.

Test 2

Hypothesis: Companies who have gone through an inversion should beat the market more often than the control group.

Method:

1. Take the stock prices of the S&P 500 and all companies who went through an inversion.
2. Took the dates six-month increments of 12/30/2005 to 12/31/2014 to compare growth of stock price to the S&P 500.
3. Graphed each company's stock growth compared to the S&P 500

4. I then took the stock prices of the control group and compared it to the S&P 500.
5. Took the dates six-month increments of 12/30/2005 to 12/31/2014 to compare growth of stock price to the S&P 500.
6. Performed the above steps for the sample size.

Below is a data table of growth of S&P 500 compared to inverting companies. The green cells (color chosen at random) indicate when the company beat the market. The first two charts are inverting companies, then the control group. After the two graphs summarizing all of the statistics, there is a breakdown of each sample vs. their competitor.

Inversion Group:

Date	S&P 500[81]	PNR[82]	Tim Hortons[83]	ESV[84]	TEL[85]	RDC[86]	ETN[87]
12/31/2014	5.03%	-7.90%		-46.10%	2.28%	-26.97%	2.56%
6/30/2014	6.05%	-7.15%		-2.82%	12.21%	-9.70%	-2.26%
12/31/2013	15.07%	34.63%	55.82%	-1.62%	21.01%	3.79%	34.84%
6/28/2013	12.63%	17.38%	-5.79%	-1.96%	22.68%	8.95%	12.16%
12/31/2012	4.70%	28.40%	10.85%	26.21%	16.33%	-3.28%	10.64%
6/29/2012	8.31%	14.99%	21.69%	0.11%	3.57%	6.59%	0.83%
12/30/2011	-4.77%	-17.52%	-13.40%	-11.97%	-16.19%	-21.85%	-15.03%
6/30/2011	5.01%	10.55%	8.87%	-0.15%	3.84%	11.17%	3.99%
12/31/2010	22.02%	13.39%	13.90%	35.90%	39.48%	59.12%	55.61%
6/30/2010	-7.57%	-0.31%	3.88%	-1.65%	3.38%	-3.09%	2.93%
12/31/2009	21.30%	26.07%	21.11%	14.54%	32.06%	17.18%	25.42%
6/30/2009	1.78%	8.24%	13.20%	22.82%	14.68%	21.51%	0.99%
12/31/2008	-29.43%	-32.41%	3.80%	-64.84%	-54.75%	-65.99%	-40.35%
6/30/2008	-12.83%	0.60%	-10.79%	35.42%	-3.53%	18.47%	-5.30%
12/31/2007	-2.33%	-9.75%	7.92%	-2.28%	-4.94%	-3.71%	-23.08%
6/29/2007	6.00%	22.83%	-17.25%	21.87%		23.43%	27.35%
12/29/2006	11.66%	-8.16%	12.01%	8.78%		-6.72%	-0.93%
6/30/2006	1.76%	-0.96%	-9.52%	3.77%		-0.14%	17.65%
12/30/2005	4.78%	-19.36%	28.19%	24.06%		19.96%	6.37%

81 Yahoo Finance, "^GSPC Historical Prices S&P 500 Stock - Yahoo! Finance," ^GSPC Historical Prices S&P 500 Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp;_ylt=AwrTWfyuxupU_ylANt.TmYlQ?s=%5EGSPC%2BHistorical%2BPrices.

82 Yahoo Finance, "PNR Historical Prices Pentair Plc. Ordinary Share Stock - Yahoo! Finance," PNR Historical Prices Pentair Plc. Ordinary Share Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=PNR%2BHistorical%2BPrices.

83 Yahoo Finance, "Tim Hortons Inc.," Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=THI.TO+Historical+Prices.

84 Yahoo Finance, "ESV Historical Prices Ensco Plc Class A Ordinary Shar Stock - Yahoo! Finance," ESV Historical Prices Ensco Plc Class A Ordinary Shar Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=ESV%2BHistorical%2BPrices.

85 Yahoo Finance, "TEL Historical Prices TE Connectivity Ltd. New Switze Stock - Yahoo! Finance," TEL Historical Prices TE Connectivity Ltd. New Switze Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=TEL%2BHistorical%2BPrices.

86 Morningstar, "Rowan Companies PLC," Income Statement for (RDC) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=RDC.

87 Morningstar, "Eaton Corp PLC," Income Statement for (ETN) from Morningstar.com, 2015, accessed February 23, 2015, http://financials.morningstar.com/income-statement/is.html?t=ETN.

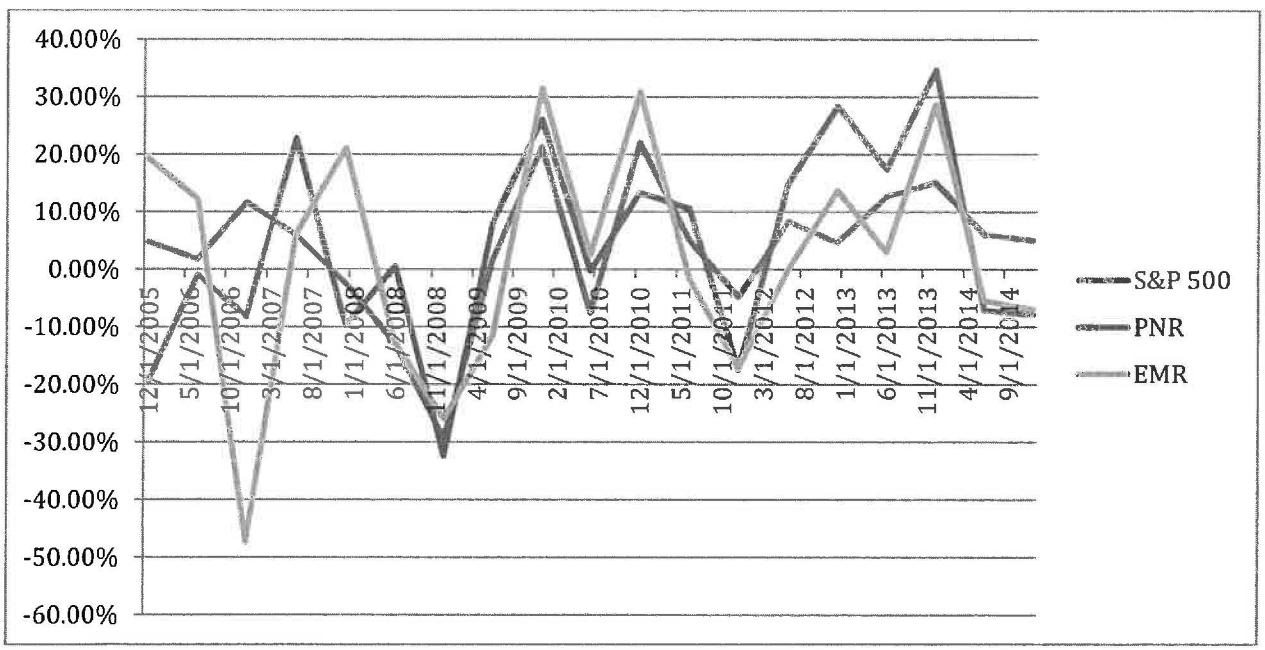
Control Group:

Date	S&P 500	EMR[88]	PANERA[89]	HP[90]	GLW[91]	RIG[92]	PH[93]
12/31/14	5.03%	-6.98%		-41.93%	4.46%	-59.29%	-11.95%
6/30/14	6.05%	-5.44%		38.09%	23.18%	-8.88%	1.39%
12/31/13	15.07%	28.68%	-4.97%	34.64%	25.23%	3.07%	15.67%
6/28/13	12.63%	2.98%	17.07%	11.50%	12.76%	7.37%	21.47%
12/31/12	4.70%	13.70%	13.91%	28.82%	-2.40%	-0.16%	36.71%
6/29/12	8.31%	-0.02%	-1.42%	-25.50%	-0.39%	16.51%	-8.96%
12/30/11	-4.77%	-17.17%	12.57%	-11.74%	-28.48%	-40.54%	-15.39%
6/30/11	5.01%	-1.61%	24.16%	36.39%	-6.06%	-7.12%	-49.32%
12/31/10	22.02%	30.85%	34.43%	32.75%	19.63%	50.03%	55.12%
6/30/10	-7.57%	2.56%	12.47%	-8.43%	-16.36%	-44.05%	2.86%
12/31/09	21.30%	31.48%	34.26%	29.19%	20.24%	11.46%	42.61%
6/30/09	1.78%	-11.50%	-4.56%	35.69%	68.52%	57.23%	-10.26%
12/31/08	-29.43%	-25.97%	12.93%	-68.41%	-58.66%	-68.99%	-41.50%
6/30/08	-12.83%	-12.73%	29.15%	79.74%	-3.92%	6.45%	-12.36%
12/31/07	-2.33%	21.07%	-22.23%	13.13%	-6.11%	35.07%	4.25%
6/29/07	6.00%	6.15%	-17.62%	44.75%		31.02%	23.77%
12/29/06	11.66%	-47.39%	-16.85%	-59.39%		0.71%	-0.34%
6/30/06	1.76%	12.20%	2.38%	-2.67%		15.25%	12.39%
12/30/05	4.78%	19.27%	5.78%	31.95%		29.13%	12.00%

[88] Yahoo Finance, "EMR Historical Prices Emerson Electric Company Common Stock - Yahoo! Finance," EMR Historical Prices Emerson Electric Company Common Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=EMR%2BHistorical%2BPrices.
[89] Yahoo Finance, "PNRA Historical Prices Panera Bread Company Stock - Yahoo! Finance," PNRA Historical Prices Panera Bread Company Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=PNRA%2BHistorical%2BPrices.
[90] Yahoo Finance, "HP Historical Prices Helmerich & Payne, Inc. Common Stock - Yahoo! Finance," HP Historical Prices Helmerich & Payne, Inc. Common Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=HP%2BHistorical%2BPrices.
[91] Yahoo Finance, "GLW Historical Prices Corning Incorporated Common Sto Stock - Yahoo! Finance," GLW Historical Prices Corning Incorporated Common Sto Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=GLW%2BHistorical%2BPrices.
[92] Yahoo Finance, "RIG Historical Prices Transocean Ltd (Switzerland) Co Stock - Yahoo! Finance," RIG Historical Prices Transocean Ltd (Switzerland) Co Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=RIG%2BHistorical%2BPrices.
[93] Yahoo Finance, "PH Historical Prices Parker-Hannifin Corporation Com Stock - Yahoo! Finance," PH Historical Prices Parker-Hannifin Corporation Com Stock - Yahoo! Finance, 2015, accessed February 23, 2015, http://finance.yahoo.com/q/hp?s=PH%2BHistorical%2BPrices.

Pentair Plc. vs. Emerson Electric

Date	S&P 500 [94]	PNR[95]	EMR[96]
12/31/2014	5.03%	-7.90%	-6.98%
6/30/2014	6.05%	-7.15%	-5.44%
12/31/2013	15.07%	34.63%	28.68%
6/28/2013	12.63%	17.38%	2.98%
12/31/2012	4.70%	28.40%	13.70%
6/29/2012	8.31%	14.99%	-0.02%
12/30/2011	-4.77%	-17.52%	-17.17%
6/30/2011	5.01%	10.55%	-1.61%
12/31/2010	22.02%	13.39%	30.85%
6/30/2010	-7.57%	-0.31%	2.56%
12/31/2009	21.30%	26.07%	31.48%
6/30/2009	1.78%	8.24%	-11.50%
12/31/2008	-29.43%	-32.41%	-25.97%
6/30/2008	-12.83%	0.60%	-12.73%
12/31/2007	-2.33%	-9.75%	21.07%
6/29/2007	6.00%	22.83%	6.15%
12/29/2006	11.66%	-8.16%	-47.39%
6/30/2006	1.76%	-0.96%	12.20%
12/30/2005	4.78%	-19.36%	19.27%

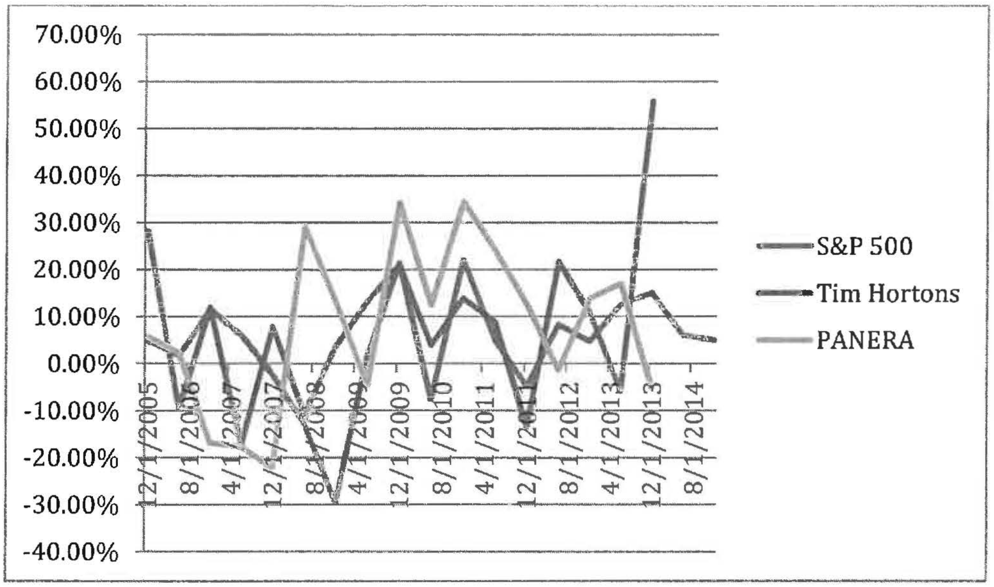


[94] Ibid, Yahoo Finance – S&P 500
[95] Ibid, Yahoo Finance – PNR
[96] Ibid, Yahoo Finance – EMR

Tim Hortons vs. Panera Bread

Date	S&P 500[97]	Tim Hortons[98]	PANERA[99]
12/31/2014	5.03%		
6/30/2014	6.05%		
12/31/2013	15.07%	55.82%	-4.97%
6/28/2013	12.63%	-5.79%	17.07%
12/31/2012	4.70%	10.85%	13.91%
6/29/2012	8.31%	21.69%	-1.42%
12/30/2011	-4.77%	-13.40%	12.57%
6/30/2011	5.01%	8.87%	24.16%
12/31/2010	22.02%	13.90%	34.43%
6/30/2010	-7.57%	3.88%	12.47%
12/31/2009	21.30%	21.11%	34.26%
6/30/2009	1.78%	13.20%	-4.56%
12/31/2008	-29.43%	3.80%	12.93%
6/30/2008	-12.83%	-10.79%	29.15%
12/31/2007	-2.33%	7.92%	-22.23%
6/29/2007	6.00%	-17.25%	-17.62%
12/29/2006	11.66%	12.01%	-16.85%
6/30/2006	1.76%	-9.52%	2.38%
12/30/2005	4.78%	28.19%	5.78%

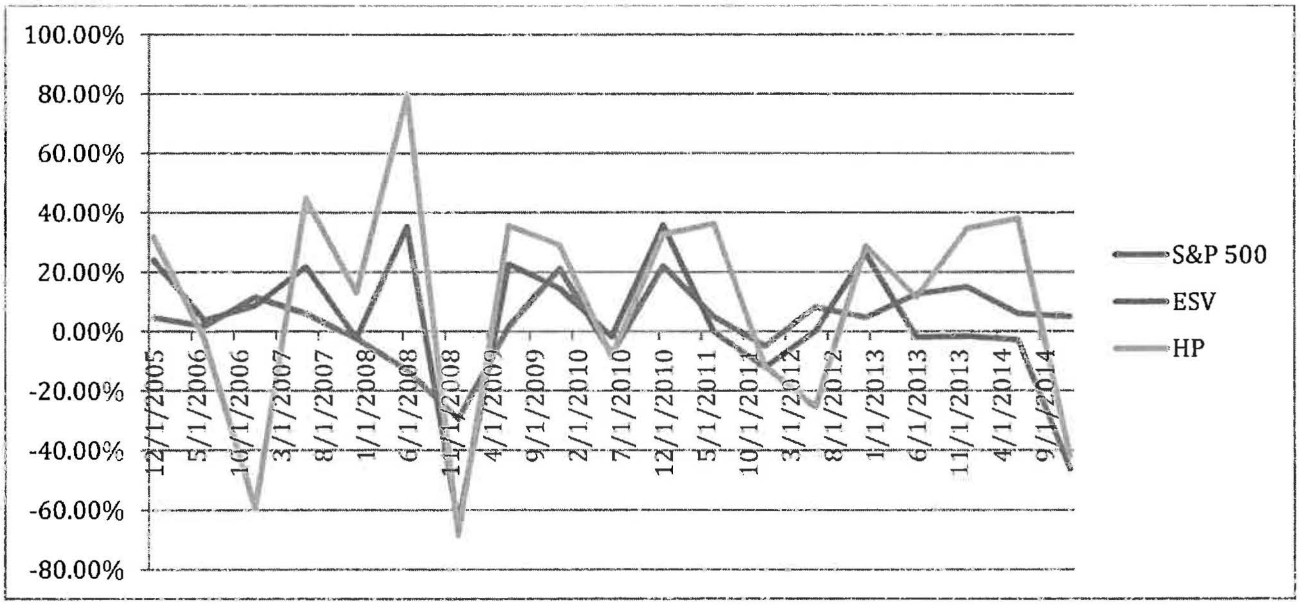
[97] Ibid, Yahoo Finance – S&P 500
[98] Ibid, Yahoo Finance – THI
[99] Ibid, Yahoo Finance – PNRA



Ensco Plc. Vs. Helmerich & Payne

Date	S&P 500[100]	ESV[101]	HP[102]
12/31/2014	5.03%	-46.10%	-41.93%
6/30/2014	6.05%	-2.82%	38.09%
12/31/2013	15.07%	-1.62%	34.64%
6/28/2013	12.63%	-1.96%	11.50%
12/31/2012	4.70%	26.21%	28.82%
6/29/2012	8.31%	0.11%	-25.50%
12/30/2011	-4.77%	-11.97%	-11.74%
6/30/2011	5.01%	-0.15%	36.39%
12/31/2010	22.02%	35.90%	32.75%
6/30/2010	-7.57%	-1.65%	-8.43%
12/31/2009	21.30%	14.54%	29.19%
6/30/2009	1.78%	22.82%	35.69%
12/31/2008	-29.43%	-64.84%	-68.41%
6/30/2008	-12.83%	35.42%	79.74%
12/31/2007	-2.33%	-2.28%	13.13%
6/29/2007	6.00%	21.87%	44.75%
12/29/2006	11.66%	8.78%	-59.39%
6/30/2006	1.76%	3.77%	-2.67%
12/30/2005	4.78%	24.06%	31.95%

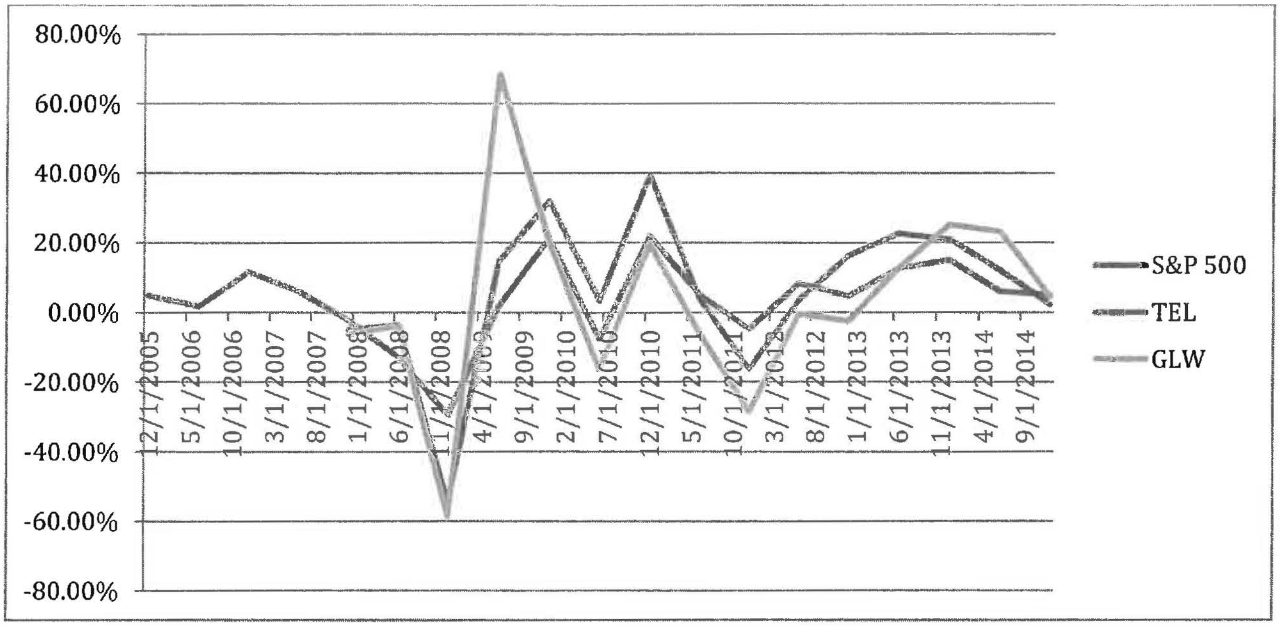
[100] Ibid, Yahoo Finance – S&P 500
[101] Ibid, Yahoo Finance – ESV
[102] Ibid, Yahoo Finance – HP



TE Connectivity Ltd. vs. Corning Inc.

Date	S&P 500[103]	TEL[104]	GLW[105]
12/31/2014	5.03%	2.28%	4.46%
6/30/2014	6.05%	12.21%	23.18%
12/31/2013	15.07%	21.01%	25.23%
6/28/2013	12.63%	22.68%	12.76%
12/31/2012	4.70%	16.33%	-2.40%
6/29/2012	8.31%	3.57%	-0.39%
12/30/2011	-4.77%	-16.19%	-28.48%
6/30/2011	5.01%	3.84%	-6.06%
12/31/2010	22.02%	39.48%	19.63%
6/30/2010	-7.57%	3.38%	-16.36%
12/31/2009	21.30%	32.06%	20.24%
6/30/2009	1.78%	14.68%	68.52%
12/31/2008	-29.43%	-54.75%	-58.66%
6/30/2008	-12.83%	-3.53%	-3.92%
12/31/2007	-2.33%	-4.94%	-6.11%
6/29/2007	6.00%		
12/29/2006	11.66%		
6/30/2006	1.76%		
12/30/2005	4.78%		

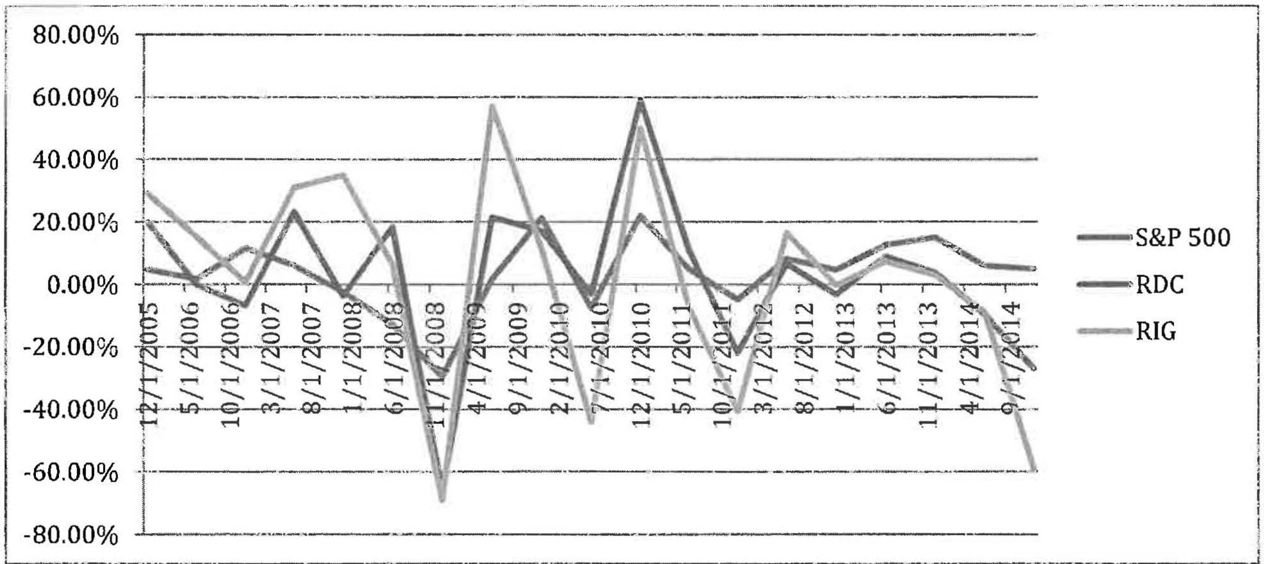
[103] Ibid, Yahoo Finance – S&P 500
[104] Ibid, Yahoo Finance – Tel
[105] Ibid, Yahoo Finance – GLW



Rowan Companies Plc. Vs. Transocean Ltd.

Date	S&P 500[106]	RDC[107]	RIG[108]
12/31/2014	5.03%	-26.97%	-59.29%
6/30/2014	6.05%	-9.70%	-8.88%
12/31/2013	15.07%	3.79%	3.07%
6/28/2013	12.63%	8.95%	7.37%
12/31/2012	4.70%	-3.28%	-0.16%
6/29/2012	8.31%	6.59%	16.51%
12/30/2011	-4.77%	-21.85%	-40.54%
6/30/2011	5.01%	11.17%	-7.12%
12/31/2010	22.02%	59.12%	50.03%
6/30/2010	-7.57%	-3.09%	-44.05%
12/31/2009	21.30%	17.18%	11.46%
6/30/2009	1.78%	21.51%	57.23%
12/31/2008	-29.43%	-65.99%	-68.99%
6/30/2008	-12.83%	18.47%	6.45%
12/31/2007	-2.33%	-3.71%	35.07%
6/29/2007	6.00%	23.43%	31.02%
12/29/2006	11.66%	-6.72%	0.71%
6/30/2006	1.76%	-0.14%	15.25%
12/30/2005	4.78%	19.96%	29.13%

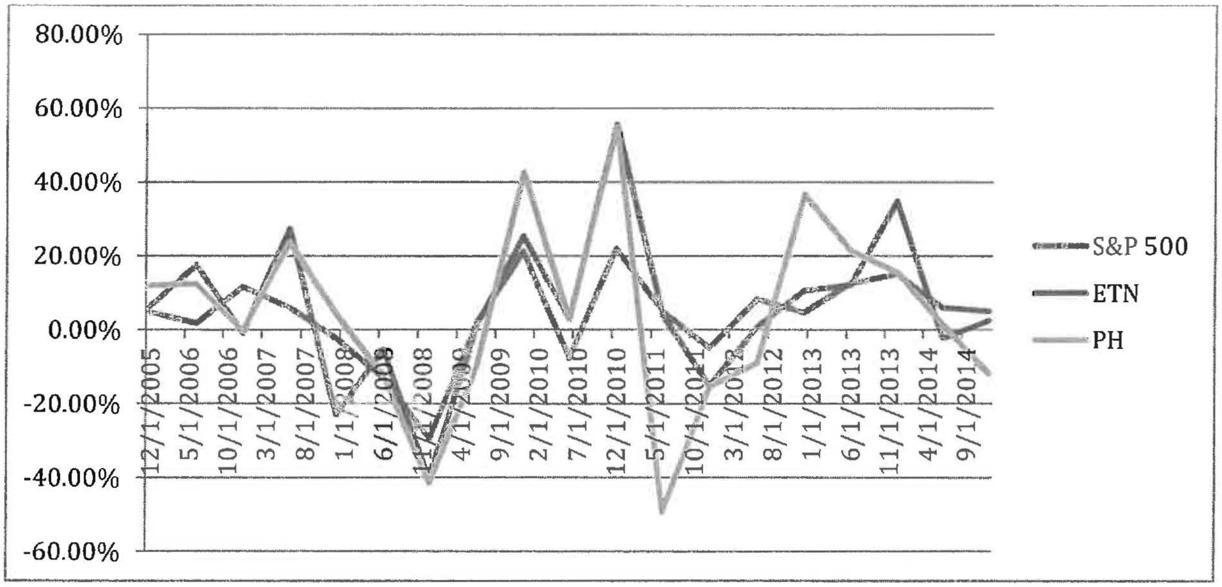
[106] Ibid, Yahoo Finance – S&P 500
[107] Ibid, Yahoo Finance – RDC
[108] Ibid, Yahoo Finance – RIG



Eaton Plc. vs. Parker Hannifin Corporation

Date	S&P 500[109]	ETN[110]	PH[111]
12/31/2014	5.03%	2.56%	-11.95%
6/30/2014	6.05%	-2.26%	1.39%
12/31/2013	15.07%	34.84%	15.67%
6/28/2013	12.63%	12.16%	21.47%
12/31/2012	4.70%	10.64%	36.71%
6/29/2012	8.31%	0.83%	-8.96%
12/30/2011	-4.77%	-15.03%	-15.39%
6/30/2011	5.01%	3.99%	-49.32%
12/31/2010	22.02%	55.61%	55.12%
6/30/2010	-7.57%	2.93%	2.86%
12/31/2009	21.30%	25.42%	42.61%
6/30/2009	1.78%	0.99%	-10.26%
12/31/2008	-29.43%	-40.35%	-41.50%
6/30/2008	-12.83%	-5.30%	-12.36%
12/31/2007	-2.33%	-23.08%	4.25%
6/29/2007	6.00%	27.35%	23.77%
12/29/2006	11.66%	-0.93%	-0.34%
6/30/2006	1.76%	17.65%	12.39%
12/30/2005	4.78%	6.37%	12.00%

109 Ibid, Yahoo Finance – S&P 500
110 Ibid, Yahoo Finance – ETN
111 Ibid, Yahoo Finance – PH



Conclusion:

When analyzing all of the data, finding a trend is difficult find. The companies stock price tends to shift with the S&P 500 and there is not a visible improvement or visible negative impact on stock price. However keeping score of companies who have inverted compared to companies who have not is a way to determine if there is an impact on the stock price from an inversion. In order to keep score there were a series of steps. The first step was counting the number of times each inverted company beat the market compared to the control company. The second step was taking the number of times the company beat the stock market prior to the time of inversion. The third step was counting the number of times a company beat the market after the inversion. The scores are tallied in the chart below.

Overall			
	Success	Failure	Tie
Inverted Companies	1	3	2

Control Group	3	1	2
Period Before Inversion (including year of inversion)			
	Success	Failure	Tie
Inverted Companies	2	2	2
Control Group	2	2	2
Period After Inversions			
	Success	Failure	Tie
Inverted Companies	1	4	1
Control Group	4	1	1

This chart is a mechanism of recording the results of the head to head competition between the company who inverted and their control competitor. The results were found by taking the number of times a company beat the market in a certain time period, which is indicated as overall, period before inversion, and period after inversion. For example if company A beat the market 5/10 times and company B beat the market 6/10 times, company B would be successful and the result would be indicated in the success column.

Overall the number of inverted companies who were successful overall was only one, while the control group had 3 successful companies, with two ties. The more interesting fact is the period before inversions there were an equal amount of success, failure, ties split between the inverted companies and the control group. When analyzing the transition to the period after inversions the number of successful inverted companies drops down to one, while the control group has four successful companies, and there is one tie between the inverted companies and the control group. This processes demonstrated the struggles a company who goes through an inversion experiences throughout the duration and aftermath of an inversion. However this is only one test and it is not sufficient evidence to show that a company may be struggling or doing well.

Test 3

Head to Head Company Increase in Stock Price

Hypothesis: Companies who go through an inversion should beat the control company after an inversion.

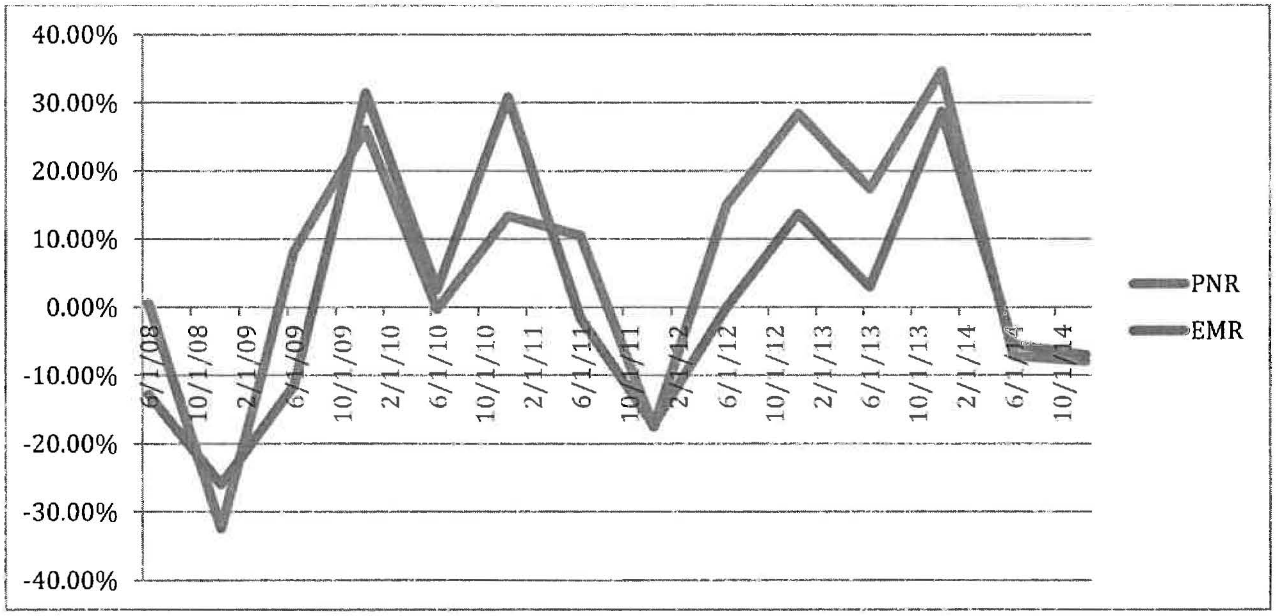
Method:

1. Take the stock prices of the companies who went through an inversion.
2. Found the stock prices of a inversion group and inversion group and found six month intervals for each company.
3. The data that was compiled was three year before an inversion and three years after, unless there was limited data before or after an inversion.
4. The calculations of the increase or decrease in stock price were compiled over 6 month intervals.
5. To display the differences in an efficient manner, when the inversion group had a larger increase over the prior period than the control group the line was highlighted green, whereas if the control group company had a larger increase than the inversion company in a certain period it was highlighted yellow. (The colors were chosen at random).

Pentair Plc. vs. Emerson Electronic

Date	PNR	EMR
12/31/14	-7.90%	-6.98%
6/30/14	-7.15%	-5.44%
12/31/13	34.63%	28.68%

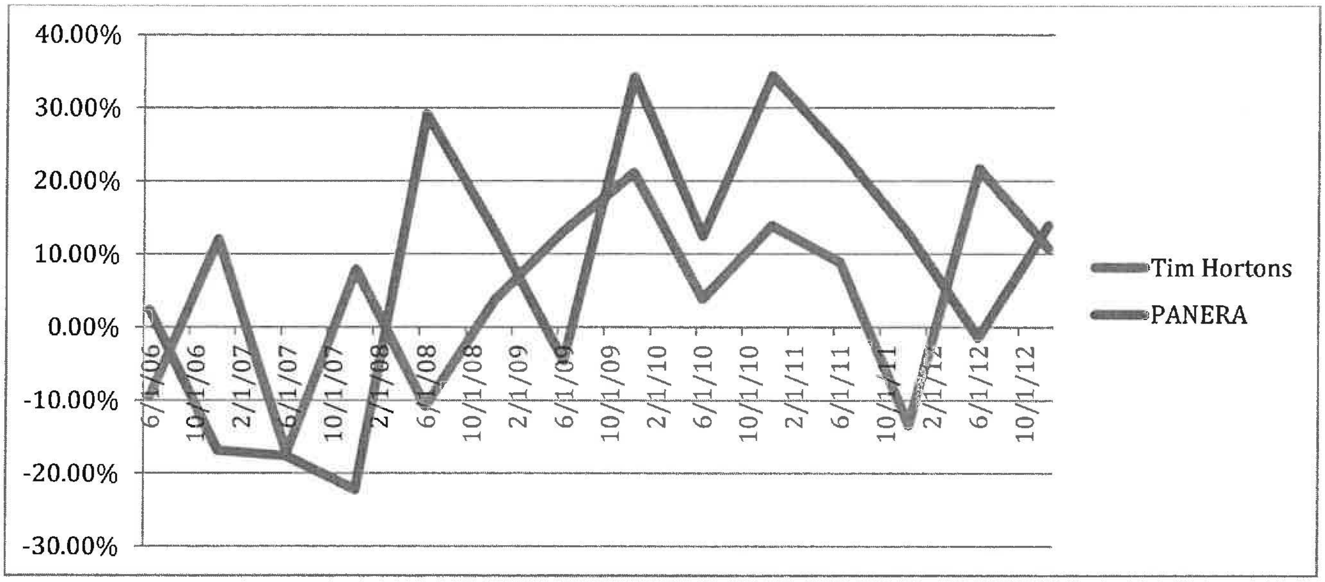
6/28/13	17.38%	2.98%
12/31/12	28.40%	13.70%
6/29/12	14.99%	-0.02%
12/30/11	-17.52%	-17.17%
6/30/11	10.55%	-1.61%
12/31/10	13.39%	30.85%
6/30/10	-0.31%	2.56%
12/31/09	26.07%	31.48%
6/30/09	8.24%	-11.50%
12/31/08	-32.41%	-25.97%
6/30/08	0.60%	-12.73%



Tim Hortons vs. Panera Bread

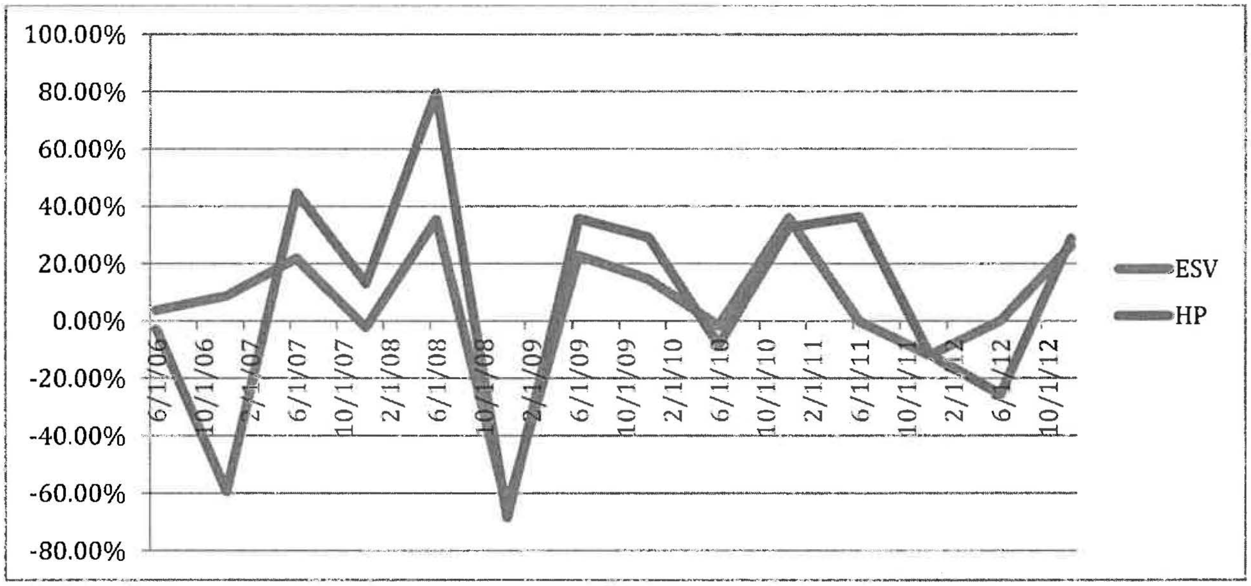
Date	Tim Hortons	PANERA
12/31/12	10.85%	13.91%
6/29/12	21.69%	-1.42%
12/30/11	-13.40%	12.57%
6/30/11	8.87%	24.16%
12/31/10	13.90%	34.43%
6/30/10	3.88%	12.47%
12/31/09	21.11%	34.26%
6/30/09	13.20%	-4.56%
12/31/08	3.80%	12.93%
6/30/08	-10.79%	29.15%
12/31/07	7.92%	-22.23%
6/29/07	-17.25%	-17.62%

12/29/06	12.01%	-16.85%
6/30/06	-9.52%	2.38%



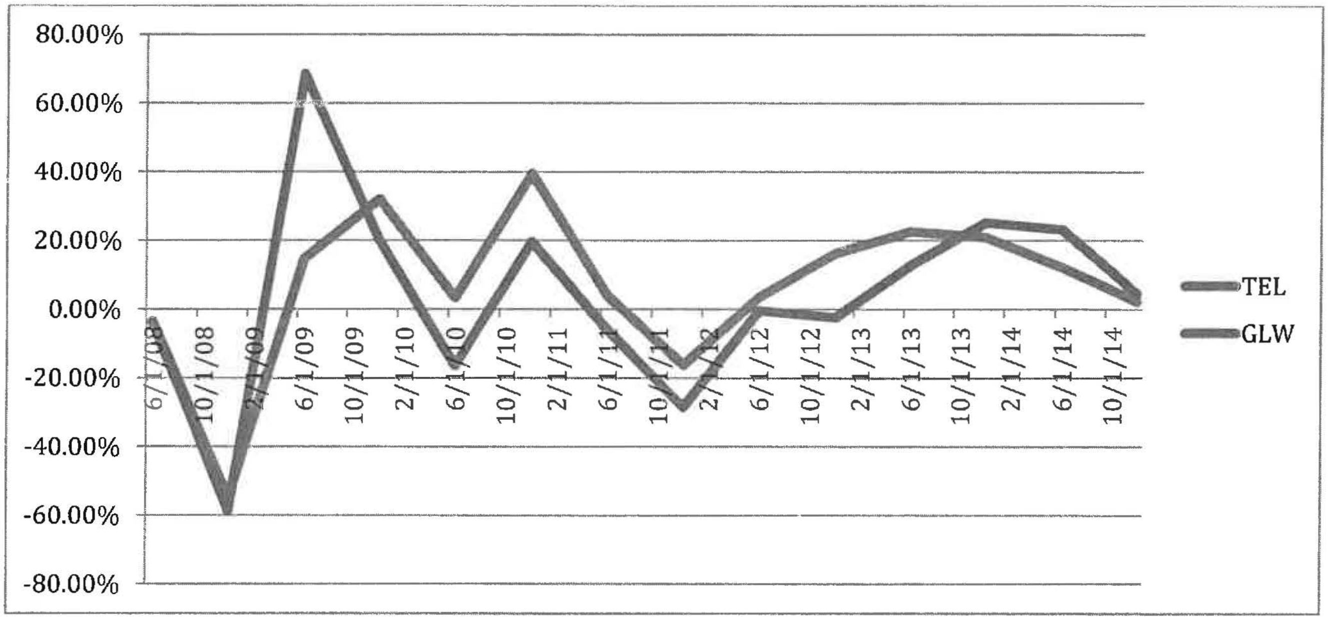
Ensco Plc. Vs. Helmerich & Payne

Date	ESV	HP
12/31/12	26.21%	28.82%
6/29/12	0.11%	-25.50%
12/30/11	-11.97%	-11.74%
6/30/11	-0.15%	36.39%
12/31/10	35.90%	32.75%
6/30/10	-1.65%	-8.43%
12/31/09	14.54%	29.19%
6/30/09	22.82%	35.69%
12/31/08	-64.84%	-68.41%
6/30/08	35.42%	79.74%
12/31/07	-2.28%	13.13%
6/29/07	21.87%	44.75%
12/29/06	8.78%	-59.39%
6/30/06	3.77%	-2.67%



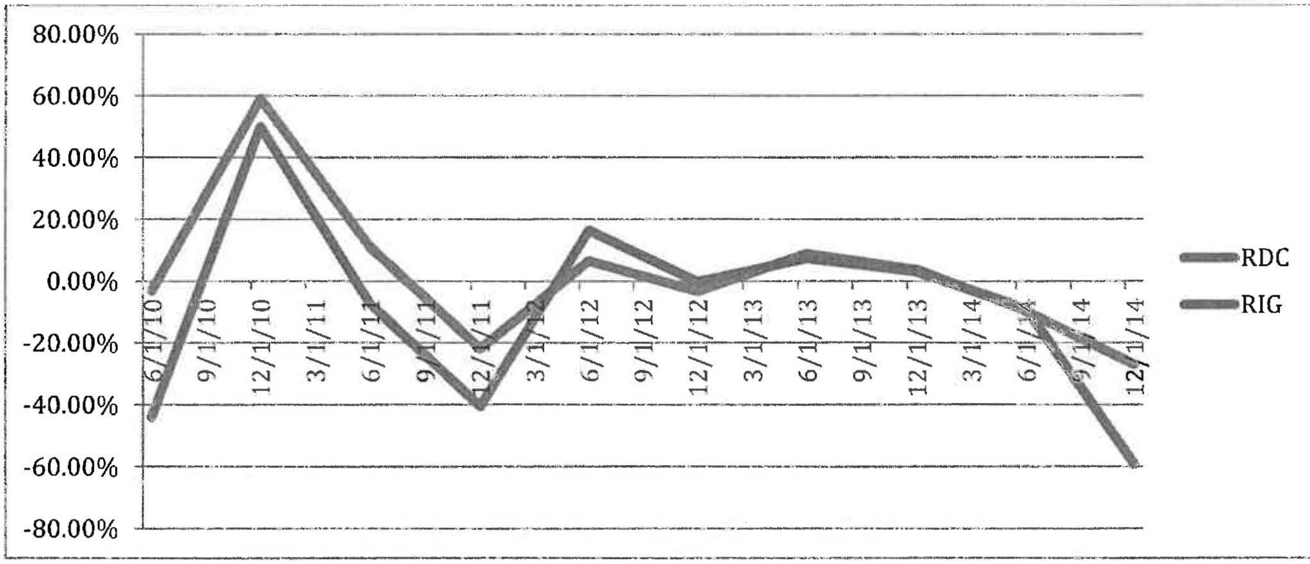
TE Connectivity Ltd. vs. Corning Inc.

Date	TEL	GLW
12/31/14	2.28%	4.46%
6/30/14	12.21%	23.18%
12/31/13	21.01%	25.23%
6/28/13	22.68%	12.76%
12/31/12	16.33%	-2.40%
6/29/12	3.57%	-0.39%
12/30/11	-16.19%	-28.48%
6/30/11	3.84%	-6.06%
12/31/10	39.48%	19.63%
6/30/10	3.38%	-16.36%
12/31/09	32.06%	20.24%
6/30/09	14.68%	68.52%
12/31/08	-54.75%	-58.66%
6/30/08	-3.53%	-3.92%



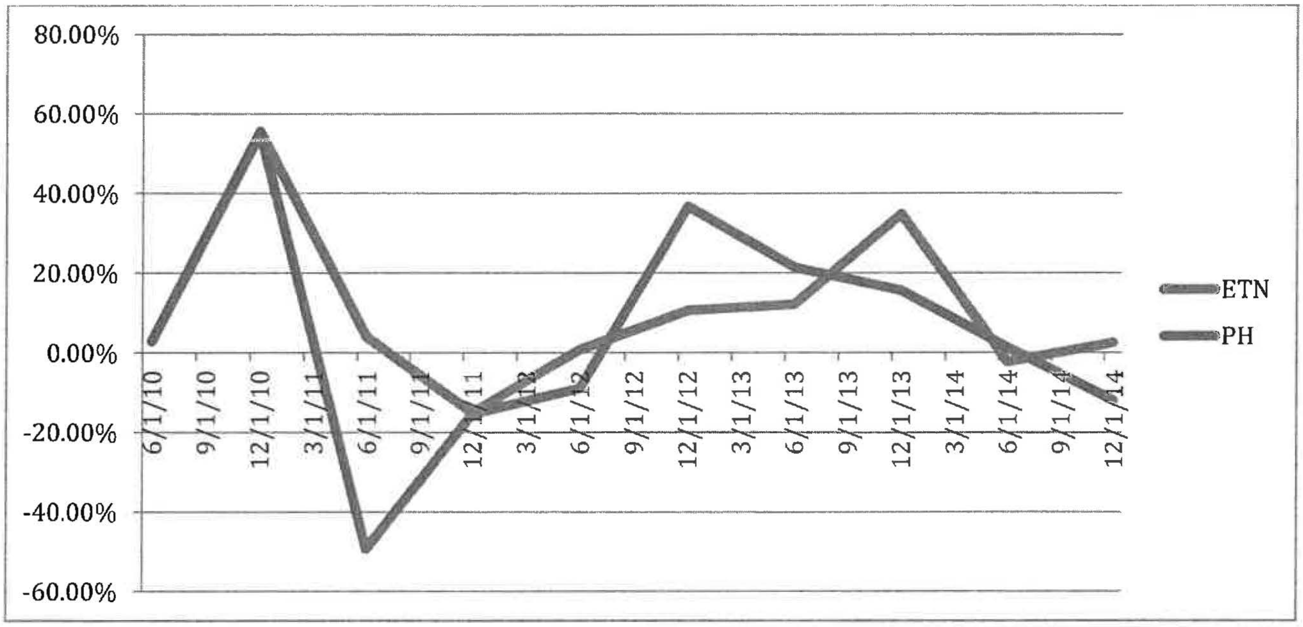
Rowan Companies Plc. Vs. Transocean Ltd.

Date	RDC	RIG
12/31/14	-26.97%	-59.29%
6/30/14	-9.70%	-8.88%
12/31/13	3.79%	3.07%
6/28/13	8.95%	7.37%
12/31/12	-3.28%	-0.16%
6/29/12	6.59%	16.51%
12/30/11	-21.85%	-40.54%
6/30/11	11.17%	-7.12%
12/31/10	59.12%	50.03%
6/30/10	-3.09%	-44.05%



Eaton Plc. vs. Parker Hannifin Corporation

Date	ETN	PH
12/31/14	2.56%	-11.95%
6/30/14	-2.26%	1.39%
12/31/13	34.84%	15.67%
6/28/13	12.16%	21.47%
12/31/12	10.64%	36.71%
6/29/12	0.83%	-8.96%
12/30/11	-15.03%	-15.39%
6/30/11	3.99%	-49.32%
12/31/10	55.61%	55.12%
6/30/10	2.93%	2.86%



Conclusion

OVERALL INCREASE STOCK PRICE

INVERSION GROUP		CONTROL GROUP		BOTH GROUPS	
OVERALL	6.24%	OVERALL	3.27%	OVERALL	4.76%
BEFORE	4.83%	BEFORE	1.55%	BEFORE	3.19%
AFTER	7.99%	AFTER	5.48%	AFTER	6.74%

In order to assist with the analysis and conclusion of the test, the combined data of the charts are above. To calculate the data in this chart, the calculations of the average stock price increase was taken, for the entire time period, before an inversion and after an inversion for the inversion group, the control group and both groups together. The table above indicates that overall the inversion group was performing better than the control group. One of the more interesting pieces of data is the increase in performance before and after an inversion for the inversion group and the control group. As shown above the inversion group increased 3.17% between the before and after while, the control group increased 3.93%. The difference is nearly a percentage point which is fairly significant, and shows that an inversion may not have had a significant impact on the stock price. However, the raw data shows that the inversion company in total had a better growth with regard to their stock price.

Test 4

Hypothesis: Companies who go through a tax inversion should have a lower effective tax rate after an inversion, compared to the US based control group.

Method

1. I calculated the effective tax rates of all companies who inverted and in the control group.
2. I grouped the companies who inverted together and grouped the control companies together.
3. I calculated the average effective tax rates of all of the companies.
4. The results are shown below.

Raw Data

INVERSION GROUP	2 years before	1 year before	Year of	1 year after	2 years after
PNR	32%	32%	65%	43%	25%
THI	34%	33%	37%	24%	29%
ESV	21%	17%	19%	15%	18%
TEL	16%	32%	23%	18%	-2%
RDC	26%	-5%	-11%	3%	N/A
ETN	10%	13%	2%	1%	N/A
AVG	**23%**	**20%**	**23%**	**17%**	**17%**

CONTROL GROUP	2 years before	1 year before	Year of	1 year after	2 years after
EMR	29%	29%	31%	35%	35%
PNRA	35%	38%	38%	38%	38%
HP	36%	37%	40%	35%	37%
GLW	-4%	7%	13%	17%	21%
RIG	14%	-6%	6%	16%	N/A
PH	26%	25%	27%	28%	N/A
AVG	**23%**	**22%**	**26%**	**28%**	**33%**

In my opinion, the results of the tables were flawed because there were many negative numbers and there were also many extremely low effective tax rates such as 2%, 3% 1%, and 7%. I have presented the adjusted charts below.

Adjusted Data

INVERSION GROUP	2 years before	1 year before	Year of	1 year after	2 years after
PNR	32%	32%		43%	25%
THI	34%	33%	37%	24%	29%
ESV	21%	17%	19%	15%	18%
TEL	16%	32%	23%	18%	
RDC	26%				
ETN	10%	13%			
AVG	**23%**	**25%**	**26%**	**25%**	**24%**

CONTROL GROUP	2 years before	1 year before	year of	1 year after	2 years after
EMR	29%	29%	31%	35%	35%
PNRA	35%	38%	38%	38%	38%
HP	36%	37%	40%	35%	37%
GLW			13%	17%	21%
RIG	14%			16%	
PH	26%	25%	27%	28%	
AVG	**28%**	**32%**	**30%**	**28%**	**33%**

Conclusion:

When looking at the raw data of the effective tax rates there were similar effective tax rates before an inversion and after an inversion After the inversions there was significant changes which was 11% in the year after inversions and 16% 2 years after inversions. When analyzing the raw data, it seems like the effective tax rates are lower than the control group counterparts. However, this data was flawed with unrealistic and negative effective tax rates. Therefore, the adjusted data, which is below the raw data, excludes the unrealistic and negative effective tax rates.

When analyzing the adjusted data, it is important to note of the number of times there is excluded data. This could be for multiple reasons including low income, and other accounting issues. It is also important to compare the effective tax rates from the raw data compared to the adjusted data. When looking at the results there is a big difference between the raw data and the adjusted data. In the year following an inversion there was an 8% difference and in year 2 there is a 7% difference. When analyzing the adjusted data there was not a significant impact on the effective tax rates for the inversion group before and after an inversion.

Results of Inversions

Looking back through all of the transactions that have happened in the inversions history there have been mixed reviews. Out of the near 100 transactions that have taxed place, 19 of the companies have subsequently outperformed the S&P 500, while another 19 have underperformed[112]. An additional 16 companies have been acquired by rivals, and three have gone out of business, while another company reincorporated back into the United States. The most recent trend of companies exiting the United States through inversions has been the pharmaceutical industry, followed by the technology industry[113]. Another result of an inversion is a lower credit rating for companies. The S&P 500 has states that "an effective inversion strategy should make sense for business fundamentals and not just for tax reasons"[114]. Therefore the S&P 500 has said that companies who are considering an offshore tax shift should be guided

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[112] Kevin Drawbaugh, "INSIGHT-When Companies Flee US Tax System, Investors Often Don't Reap Big Returns," Reuters, August 18, 2014, accessed March 10, 2015, http://www.reuters.com/article/2014/08/18/usa-tax-inversion-idUSL2N0PW16620140818.

[113] Danielle Douglas-Gabriel, "American Companies That Have Incorporated Overseas," Washington Post, harrer, accessed March 10, 2015, http://apps.washingtonpost.com/g/page/business/american-companies-that-have-incorporated-overseas/1238/.

[114] Ibid

by the phrase "caveat emptor", or let the buyer beware[115].

Research Limitations

While doing the original research there were limitations as to how much depth I could go into for tax inversions and transfer pricing. With regard to tax inversions, I selected 6 companies, which may not have been the best representation of the group because many companies who inverted became private shortly after their inversion, which limited the number of companies I could select from. In addition to being limited from choosing companies, choosing a similar competitor and a control group based on the same criteria was also difficult and with different selections of companies, different results may have been achieved.

Reasons of Reincorporation

The motivation behind reincorporation is the US Corporate tax rate, which is at 39% according to the OECD.[116] Corporations who are based out of the United States are at a competitive disadvantage with those in other first world nations. Recently the UK has been an enticing place to go to because they have been leading the "race to the bottom". The race to the bottom in this circumstance is the race of counties to lower their corporate tax rates in order to incentivize companies to reincorporate in their location in hopes of receiving tax revenue from them or to stop the trend of migration to tax havens. Since 2006, over half of the countries in the OECD have cut their corporate tax rates. These include Germany, Israel, Canada, Switzerland, and the United Kingdom[117]. The last time the US cut their corporate tax rate was in 1986 when they cut

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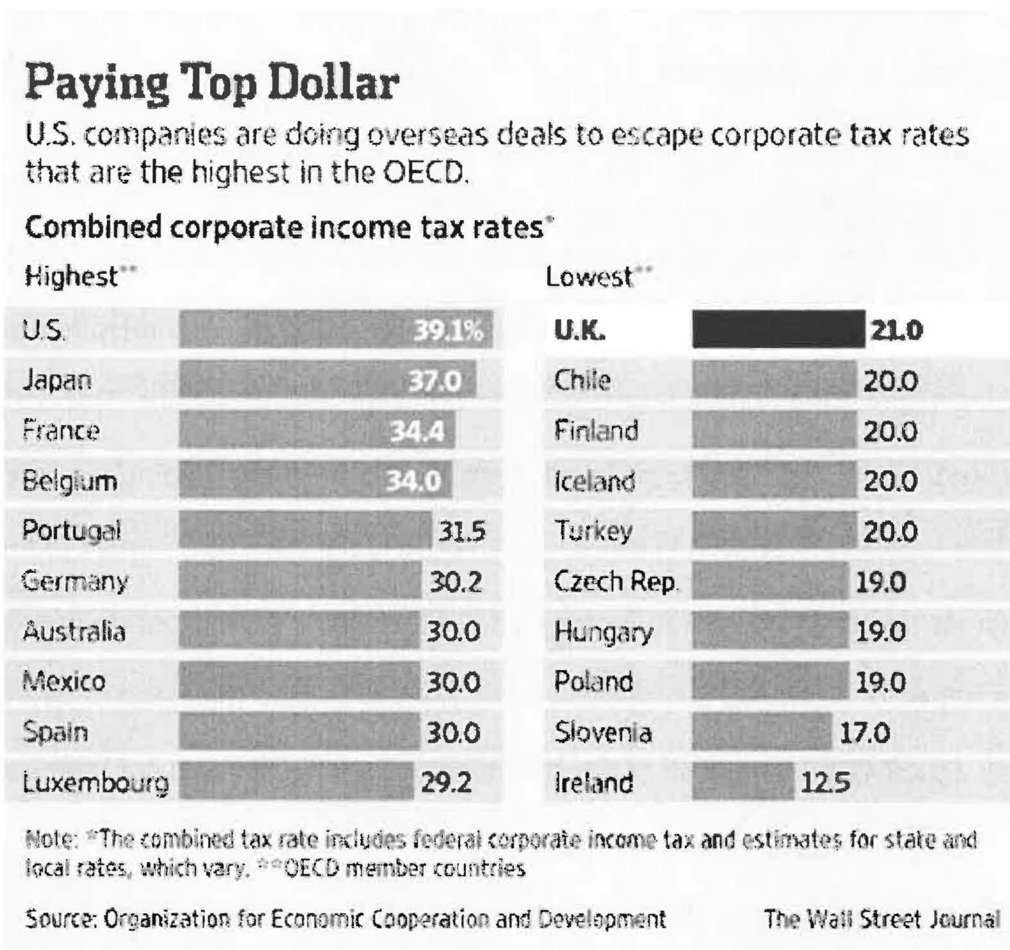
[115] Ibid
[116] Ibid
[117] Ibid

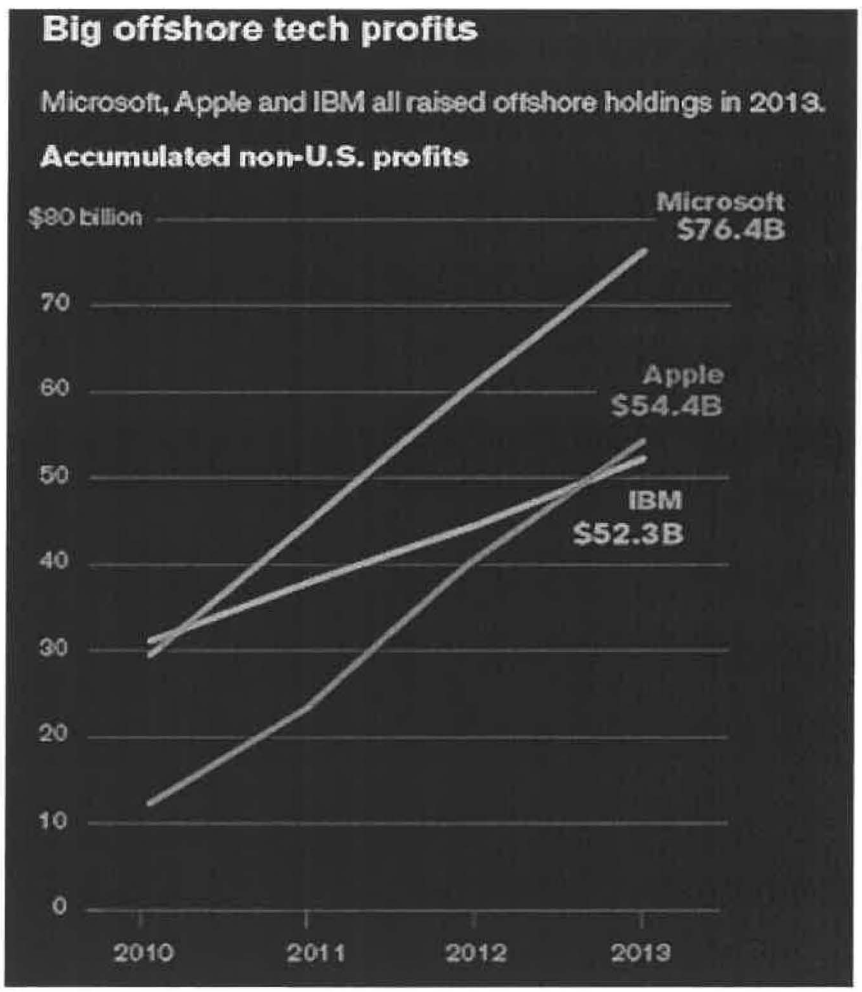
the rate from 40% to 34%.[118] In addition to a low tax rate in the United Kingdom, the UK has also promised to lower the corporate tax rate in 2015 and in various other years in the future. The highest tax rate in the OECD is in the US, with the average being 23%. According to KPMG, only 17 out of 135 countries have a corporate tax rate above 30%. The US has the second highest corporate tax rate in the world, second only to the United Arab Emirates.[119] Clearly, the US is not competitive with regard to the corporate tax rate.



118 Ibid
119 Ibid

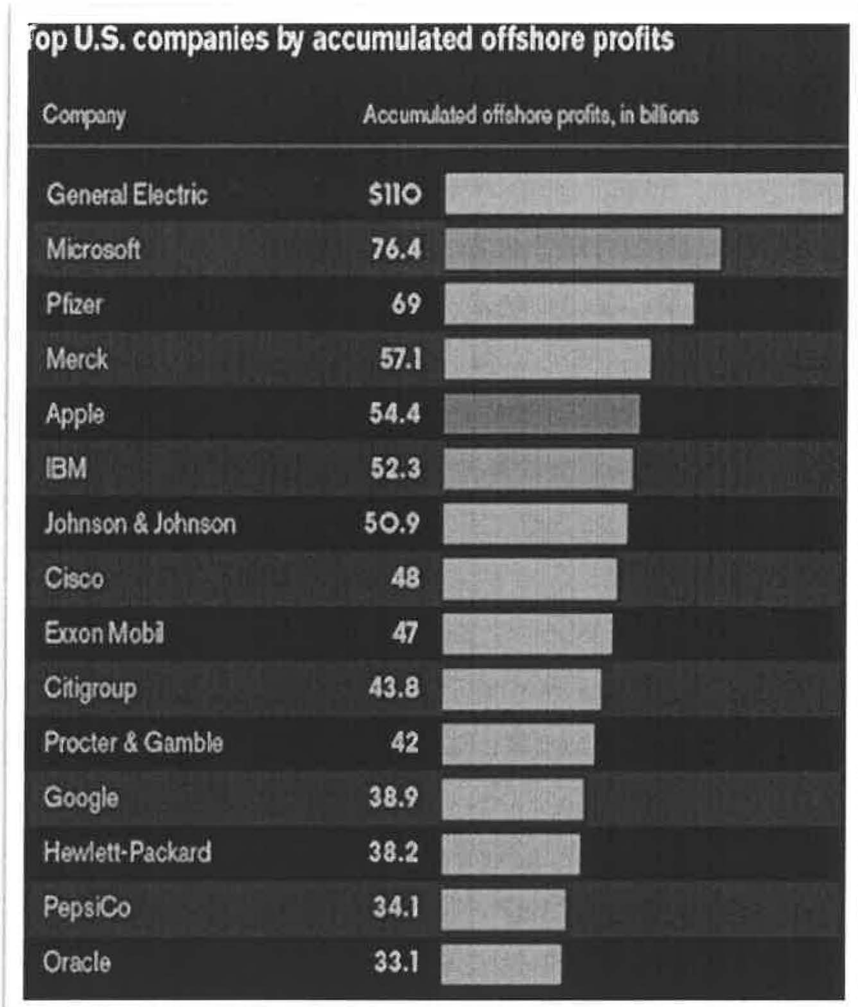
Significance of Tax Accounting

There have been many instances of successful and unsuccessful tax inversions. Corporations such as Apple, Microsoft, Google, General Electric, Pfizer, IBM and 16 other large corporations have reverted to tax inversion over the past few years, accounting for nearly $2 trillion in overseas parked profits. One of the United States government's problems is dealing with preventing reincorporation, because of the loss of corporate tax revenue to help balance the federal budget. Below is a graph indicating the increasing amount of offshore profits stored by technology companies over the past few years, which is increasing at a steady rate.



The trend of companies going offshore and keeping cash there is an ongoing problem. The US Government has had a lack of control, and has been unable to implement effective solutions in a timely manner. Twenty-two companies make up nearly $1 trillion in offshore profits, and another 285 companies make up another $1 trillion in offshore profits. With an aggregate amount of nearly $2 trillion offshore, this has become a daunting problem and is a topic of discussion in accounting and business with respect to a tax issue and an ethical issue.

As shown in the graph below, there are large amounts of profits of US companies accumulated offshore over the course of many years. The Top 22 companies alone have accumulated nearly $1 trillion in overseas profits and they are projected to exceed that amount in the near future.



This has created a huge problem for the US government and there have been talks about a second tax holiday similar to the tax holiday in 2004, where companies had 2 years to bring offshore profits to the US for the tax rate of 5-6%. The US government is interested in bringing the overseas profits back to the US and they plan on using the tax holiday revenue to fund highway repairs, which may or may not take place. However, this tax holiday may be more costly in the long run because companies will expect to have additional tax holidays and continue their transfer pricing and tax inversion methods.[120]

Ethical and Moral Obligations

There has been some controversy as to a company's obligation to pay taxes and how much they owe. Tax avoidance, while legal is an aggressive way of using financial instruments and arrangements not intended or anticipated by the governments to avoid paying taxes. Tax avoidance can make a company vulnerable to public accusations of greed and selfishness, which can damage its reputation of companies, and have a financial backlash on the company as a result of boycotts[121]. According to The Guardian, paying a fair amount of tax in the countries where they operate is a social responsibility. Companies must contribute their fair share to the infrastructure of the company, which many companies use. For example, Apple uses the United States court system to protect their patents, yet they have been in the news regarding their tax avoidance strategy revolving around transfer pricing[122]. Also a manufacturing company in the United States involved in tax avoidance may not be paying their "fair share" to help maintain, build, and repair the interstate highways in the United States[123].

[120] Emily Stephenson and Patrick Temple-West, "Senators Weigh Tax 'holiday' to Help Fund Highway Repairs," Reuters, June 10, 2014, accessed September 05, 2014, http://www.reuters.com/article/2014/06/10/us-usa-tax-highway-idUSKBN0EL28J20140610.

[121] Philippa Foster-Back, "Avoiding Tax May Be Legal, but Can It Ever Be Ethical?," Theguardian.com, April 23, 2013, accessed March 10, 2015, http%3A%2F%2Fwww.theguardian.com%2Fsustainable-business%2Favoiding-tax-legal-but-ever-ethical.

[122] C-SPAN, "Apple Testimony," C-SPAN.org, May 22, 2013, accessed February 22, 2015, http://www.c-span.org/video/?c4452681%2Fapple-testimony.

[123] Ibid, Foster Black

One of the most relevant quotes in tax history is from Judge Learned Hand. He said "Anyone may arrange his affairs so that his taxes shall be as low as possible; he is not bound to choose that pattern which best pays the Treasury. There is not even a patriotic duty to increase one's taxes. Over and over again the Courts have said that there is nothing sinister in so arranging affairs as to keep taxes as low as possible. Everyone does it, rich and poor alike and all do right, for nobody owes any public duty to pay more than the law demands."[124] This quote implies that companies and individuals alike are not required to pay more than they are asked and they are not required to fulfill a public duty or service to pay more in taxes. When Apple was questioned by the House Ways and Means Subcommittee, they were questioned about their moral and ethical obligations to pay taxes[125]. They responded by saying that they pay their legal fair share, while creating jobs for people in all 50 states, they have their headquarters in California, and manufacturing facility in the United States, while creating great products for consumers while revolutionizing the industry[126]. On the other hand Apple does use the United States infrastructure for patent protection, and they use the United States court systems to protect their patents from patent infringement.[127] One of the largest settlements in patent industry has involved Apple and protecting their patents which are stored in Ireland, from Samsung, Apple's largest iPhone competitor.[128] The settlement was one of the largest in history at $1.05 billion which spanned over the course of many months, which is paid for by the United States government through tax revenue. There

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[124] Kathryn P. Griffith, *Judge Learned Hand and the Role of the Federal Judiciary* (Norman: University of Oklahoma Press, 1973).
[125] Ibid- C-Span
[126] Ibid, C-Span
[127] Ibid, C-Span
[128] Ibid, C-Span

is an ethical and moral obligation for corporations to pay taxes especially when those companies are using the infrastructure of the country in which it operates and houses its executives, but countries should remain competitive with their tax rates, just like companies must remain competitive with each other[129].

Accounting Matrix

Auditor

The issues of transfer pricing, tax inversions and all matters of tax avoidance can be complicated for auditors and the financial reporting of an entity. The auditor will be required to understand the complex subjects of tax avoidance, transfer pricing, and tax inversion, which may require additional training. There are also different transfer pricing and tax avoidance rules which have been established by the US government and various foreign countries, which are different depending on local and federal tax laws. Accountants must become familiar with all of the laws and how the company must comply with regard to their income tax expense. That means that auditors will need to understand those laws and make sure that the company they are auditing complies with US regulations and international regulations where they are taking action with regard to transfer pricing and tax avoidance. Fortunately, this will allow financial advisors to have more billable hours.

Additional auditor confusion may present issues for CPA Firms. There is more risk involved with an audit of transfer pricing and tax inversion, which in turn creates additional liability for the partners and the firm. All individuals involved with an audit of a Company using tax avoidance schemes must understand the subject and ensure the

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[129] Tom Fairless, "New Leak Shows Scope of Luxembourg Corporate-Tax Deals," WSJ, December 10, 2014, accessed March 10, 2015, http://www.wsj.com/articles/new-leak-shows-scope-of-luxembourg-corporate-tax-deals-1418177757.

company is compliant with the tax code. If they fail to understand the company's methods, the firm and partners are susceptible to increased liability. Due to the complex nature of the issue, there may be potential problems.

Within most CPA firms there is a tax department which helps companies with tax planning. The people who help with tax planning may be able to help the auditors with understanding how transfer pricing and inversions work. This could help decrease the potential liability within a CPA firm. In addition, individuals in the tax department who assist with tax avoidance, transfer pricing, and tax inversions, help with the audits of companies and train auditors to become familiar with these issues.

User

When considering the implication of a at tax inversion from the user's perspective, there could be lots of complications and misunderstandings on this complex issue. The users of the financial statements will be pleased with the large decrease in income tax expense, which is generally the third largest line item on the income statement (behind revenue and cost of goods sold). This will lead to a net income, which means more earnings for shareholders and larger earnings per share (EPS) ratio. For example, if there are two identical companies except they have a different effective tax rate, all of the ratios involving net income will be skewed in favor of the company who is going through an inversion. A company who is actively seeking tax avoidance to help increase profits is positive for investors overall. However, many of the users of the financial statements are unfamiliar with tax inversions, and transfer pricing which could give them a false view of comparing similar companies.

Enterprise

From the perspective of corporate executives, transfer pricing and tax inversions are attractive options because they are effective ways to reduce the income tax expense on the income statement. This can help make the company more attractive for investors to help finance the company if they need cash. In addition the executives may be able to manage earnings in a certain fashion if they are able to control the rate at which they are taxed. This plays into earnings management and leads to a discussion of the ethics of inversion. There are two sides to this issue. Management's responsibility is to ensure the company is as profitable as possible. On the other hand, if a company's management is in the United States, they should be paying their portion of taxes just like every other company.

Transfer Pricing Case Studies

Microsoft

Microsoft is the company with one of the largest amounts of money stored offshore. Microsoft is a technology company, which specializes in software development and is the dominant player in the computer systems market. They appear to pay a lot in taxes because they paid $9.8 billion in taxes on $20 billion in revenue between the years of 2010 and 2012.[130] This is misleading because between the years of 2009 and 2011 Microsoft shifted profits offshore to the tax haven of Puerto Rico, and they have been aggressively storing profits, which are made from sales in the United States and moving said profits to Puerto Rico.[131] In 2012 Microsoft had about $61 billion in overseas profits, and Microsoft told its shareholders that they would owe about $19

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[130] Americans for Tax Fairness, "Corporate Tax Dodgers:10 Companies and Their Tax Loopholes," *Americans for Tax Fiarness*, 2014, accessed December 13, 2014, http://www.americansfortaxfairness.org/files/Corporate-Tax-Dodgers-Report-Final.pdf.

[131] Ibid

billion in taxes if they were to bring the profits home.[132] From 2011 to 2012 and from 2012 to 2013 Microsoft stored $15 trillion in overseas profits offshore, which is a 36%, increase and a 25% increase year over year respectively.[133] In addition to the overseas profits, Microsoft spent $8 million in lobbying expenses in 2012, and tax was its highest priority issue.[134] Their lobbyists' were in favor of a bill called the Freedom to Invest Act, which would allow companies to repatriate earnings into the United States at a significantly reduced rate.

Pfizer

The company with the third highest amounts of offshore profits is Pfizer. Pfizer is the worlds largest drug company, and has been one of the more controversial cases in tax avoidance history.[135] Pfizer's tax avoidance, through the use of transfer pricing began prior to 2004, when it had overseas profits. In 2004 the Jobs Creation Act went into affect and it offered corporations a 5.25% tax rate if they repatriated their earnings.[136] The idea behind the Jobs Creation Act is that companies would use the money that they brought back into the United States to create jobs. In the end, Pfizer brought back $37 billion, with $10 billion in tax savings while they cut over 10,000 jobs within the first two years of the Jobs Creation Act. Since then, Pfizer has been one of the biggest advocates and activists of tax avoidance.[137] Since 2007, Pfizer has not recorded a profit in the United States, and they have racked up over $2.2 billion in

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[132] Ibid
[133] Ibid
[134] Ibid
[135] Richard Rubin, "Pfizer Seeking Inversions Shows Companies Unfazed by Lew," Bloomberg.com, September 24, 2014, accessed December 13, 2014, http://www.bloomberg.com/news/2014-09-24/pfizer-pursuing-inversions-shows-companies-undeterred-by-lew.html.
[136] Americans for Tax Fairness, "Corporate Tax Dodgers:10 Companies and Their Tax Loopholes," *Americans for Tax Fiarness*, 2014, accessed December 13, 2014, http://www.americansfortaxfairness.org/files/Corporate-Tax-Dodgers-Report-Final.pdf.
[137] Ibid

federal tax refunds between 2010 and 2012, while reporting $9 billion in losses in the United States and $43 billion in profits in the rest of the world.[138] In 2012 Pfizer spent $10.5 million for lobbying congress and $131 million between the years of 1999 and 2012, with its second highest lobbying issue being taxes. In addition to Pfizer using offshore subsidiaries for profits, they also use them for losses. Pfizer has been able to use tax avoidance schemes as a way to sell certain banned drugs in the United States. In the past 15 years Pfizer has admitted guilt and most recently in 2009 they were instructed to pay a $2.1 billion fine and were prohibited from selling the banned drug in the US ever again.[139] However, Pfizer found a loophole in the tax code and allowed one of its inactive subsidiaries to accept the conviction, pay the fine, and not ever be allowed to sell the drug again in the United States. However the subsidiary had never sold a drug in its entire existence. Pfizer is a prime example why some people consider transfer pricing and tax avoidance to be unfair. The company is using United States infrastructure, patent protection, and obtained government contracts for revenue, yet they do not pay any taxes, which for many individuals crosses an ethical line.

General Electric

The company with the most amount of money stored offshore is General Electric (GE).[140] GE is the sixth largest company in America, and as of 2013 they had $110 in overseas profits, through the means of transfer pricing.[141] Between 2002 and 2011 GE reported pretax income of $88 billion, however they paid only $2.1 billion in federal income tax, which is a 2.4% rate of tax, which is not even close to the federal corporate

[138] Ibid
[139] Ibid
[140] Ibid
[141] Ibid

rate of 35%.[142] GE pays so little in taxes because of a loophole called "Active Financing Exception". The Active Financing Exception is a tax loophole which was brought in in 1997 as a one time exception, except it has been brought back 7 more times since 1997. The Washington Post estimates that the Active Financing Exception will cost US tax payers an estimated $9 billion.[143]

Burger King Case Study (Tax Inversion)

Recently in the news there have been many corporations looking to perform the tax avoidance move known as tax inversion. Burger King is one of them, and they looked to buy the Canadian company Tim Horton's. Burger King is an iconic American brand, whereas Tim Horton's is a Canadian company who is known for making doughnuts and coffee. The only similarity between these two companies is the fact that they both work in the fast food industry. Tim Horton's is the largest Coffee chain in Canada and is widely considered to be the Dunkin' Doughnuts of Canada. With a market capitalization of $8.4 billion, and Burger King having a market capitalization of $9.6 billion, the proposed merger has a potential market capitalization of $18 billion.[144] In the proposed merger, the new company would be headquartered in Ontario, Canada and the total corporate tax rate would be 26.5% (15% federal and 11.5% local), compared to the US corporate tax rate of 35%, which does not include local taxes.[145] In addition, Canada does not charge for income earned in foreign nations, which the United States does.[146] According to KPMG, Canada has the "the most business-friendly

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[142] Ibid
[143] Ibid
[144] Jon Hartley, "Burger King's Tax Inversion and Canada's Favorable Corporate Tax Rates," Forbes, August 25, 2014, accessed December 13, 2014, http://www.forbes.com/sites/jonhartley/2014/08/25/burger-kings-tax-inversion-and-canadas-favorable-corporate-tax-rates/.
[145] Ibid
[146] Ibid

tax structure among developed countries when adding up a wide range of tax costs to businesses from statutory labor costs to harmonized sales tax."(Forbes) KPMG estimates that Canada's tax costs are about 46% lower than the United States tax costs, and they are ranked first for overall lowest taxes in developed countries, and they are ranked second for manufacturing and corporate services operations.[147]

When the deal was originally announced in August 2014, it immediately caught the attention of the lawmakers in Congress. Republicans and Democrats in the house have two different opinions. The Republicans have stated the necessity for an overhauled tax code to make the United States more attractive to business.[148] On the other hand, Democrats have called for quick action to close the loophole, while using and increasing the media pressure on Burger King to back out of the proposed merger.[149] Reuters estimates that Burger King could save roughly $100 million a year in tax savings[150] if the tax inversion deal goes through, however Americans for Tax Fairness (a liberal organization) estimates that they should save between $100 million and $300 million per year.[151] In addition, Burger King's shareholders could save up to $820 million in capital gains taxes due to the structure of the inversion.[152]

There has been a large amount of scrutiny built up about the deal due to a few potential factors. The first factor is the fact that 69% of the shareholder ownership is a

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147 KPMG LLC, "Competitive Alternatives 2014 – Focus on Tax," KPMG.com, 2014, accessed December 13, 2014, http%3A%2F%2Fwww.kpmg.com%2Fca%2Fen%2Fservices%2Ftax%2Ffocus-on-tax%2Fpages%2Fdefault.aspx.
148 Richard Rubin, "Burger King Deal Advances Amid U.S. Inversion Crackdown," Bloomberg.com, September 23, 2014, accessed December 13, 2014, http://www.bloomberg.com/news/2014-09-23/lew-tries-to-limit-tax-cut-deals-with-inversion-crackdown.html.
149 Ibid
150 Kevin Drawbaugh, "Burger King to save Millions in U.S. Taxes in 'inversion': Study," Reuters, December 11, 2014, accessed December 12, 2014, http://www.reuters.com/article/2014/12/11/us-usa-tax-burgerking-idUSKBN0JP0CI20141211.
151 Americans for Tax Fairness, "Whopper of a Tax Dodge," *Whopper of a Tax Dodge*, December 2014, accessed December 13, 2014, http://www.americansfortaxfairness.org/files/WhopperTaxDodge_121114.pdf.
152 Ibid

private equity firm called 3G Capital, located in the Cayman Islands and owned by 3 Brazilian billionaires, which owns several tax saving entities.[153] 3G Capital is known to influence companies decision making to aggressively cut costs to improve cash flows, which is done partially by reducing the corporations tax liability.[154] This made both governments on both sides of the border skeptical of the ethical line Burger King and Tim Horton's may be crossing. In addition 3G has structured Burger King as an international company to avoid paying taxes. In total Burger King has set up 9 subsidiary companies in locations known as tax havens, such as Switzerland, Luxembourg, the Netherlands[155]. For instance, Burger King only has 37 stores in Switzerland, however there was profit of $127.6 million in 2012 compared to a net worldwide profit of $117.7 million[156]. The second factor is the price the American tax payer has paid Burger King Employees indirectly by supporting Burger King's employees due to low pay and no benefits, which adds up to roughly $356 million per year[157]. There are many more reasons why this deal is not perfect, but it has been scrutinized by the media, and has caught the attention of Congress and the President of the United States. The next course of action would be to fix the problem of tax inversions.

Three out of the four case studies explained above use transfer pricing. Those companies were Pfizer, General Electric, and Microsoft. As part of my original research, I wanted to see how much those companies were profiting through the use of their tax avoidance schemes.

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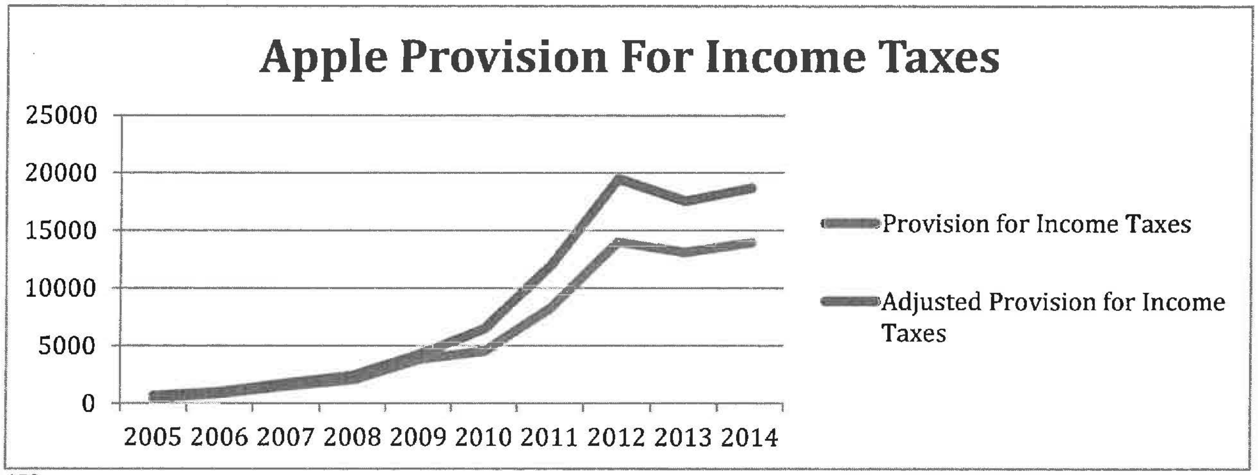
[153] Ibid
[154] Ibid
[155] Ibid
[156] Ibid
[157] Ibid

Transfer Pricing Original Research

My research for transfer pricing revolved around four companies who are publically known to be involved in transfer pricing. I chose two companies in the technology and pharmaceutical industries to calculate the difference between the actual companies financials affected which includes transfer pricing, and the adjusted value, which is based on the company using a 35% tax rate. The companies I chose were Apple, Microsoft, Pfizer and Merck. Apple and Microsoft are both technology companies, and Pfizer and Merck are both pharmaceutical companies. The complete financial statements will be attached to this paper as Appendix A as only tables and charts will be used to explain the research. My process to understand the effectiveness of transfer pricing is as follows:

1. Download the financial statements.
2. Calculate the effective tax rate.
3. Take income before taxes and multiply it by the effective tax rate, giving net income.
4. Take the net income and divide it by the outstanding shares giving earnings per share.
5. In a separate chart, take the income before taxes and multiply it by the US corporate tax rate of 35% thus finding the adjusted net income.
6. Take the adjusted net income and divide it by the number of shares outstanding, thus finding the adjusted earnings per shares.
7. Chart the results of differences of provision for income taxes, net income, and earnings per share (EPS).



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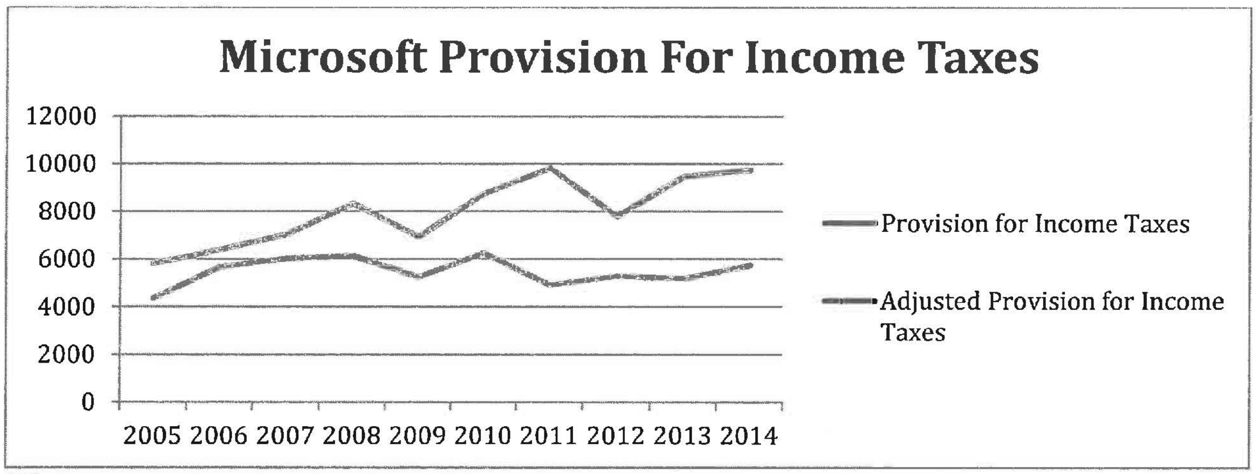

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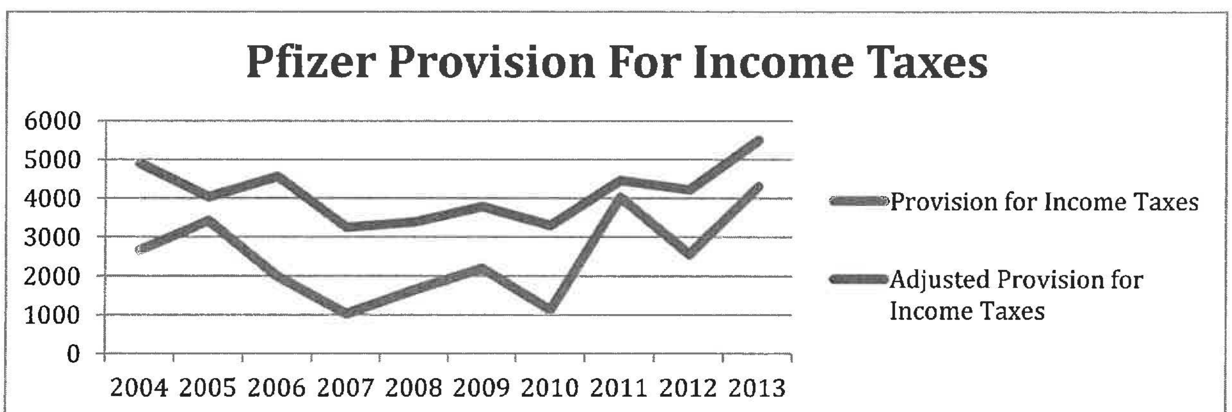

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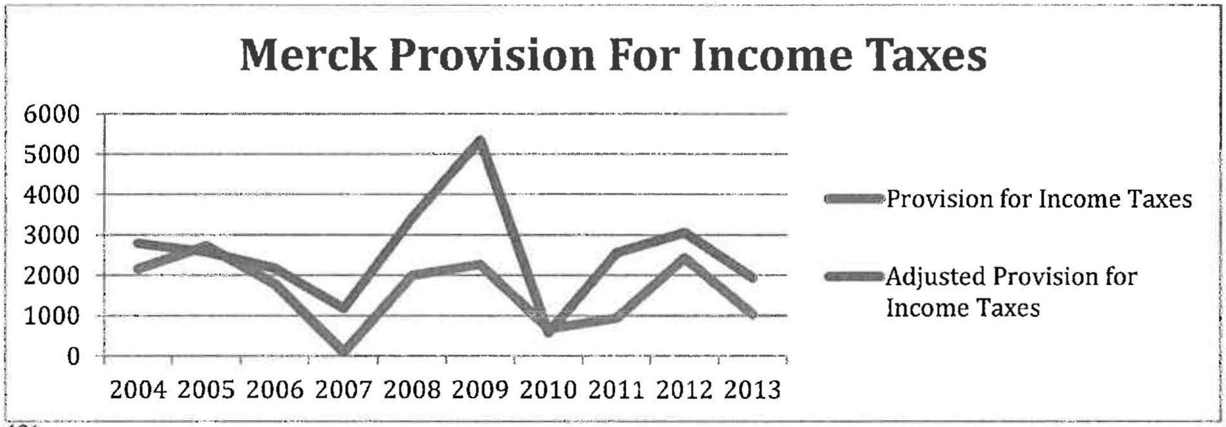
[158] Morningstar, "Apple Inc," Income Statement for (AAPL) from Morningstar.com, 2015, accessed February 22, 2015, http://financials.morningstar.com/income-statement/is.html?t=AAPL®ion=usa&culture=en-US.
[159] Morningstar, "Microsoft Corp," Income Statement for (MSFT) from Morningstar.com, 2015, accessed February 22, 2015, http://financials.morningstar.com/income-statement/is.html?t=MSFT.
[160] Morningstar, "Pfizer Inc," Income Statement for (PFE) from Morningstar.com, 2015, accessed February 22, 2015, http://financials.morningstar.com/income-statement/is.html?t=PFE.



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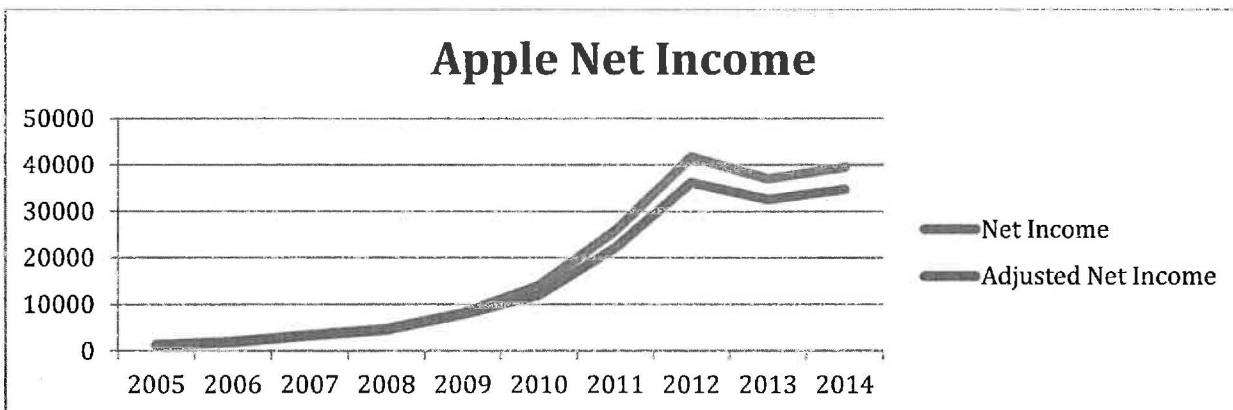
When looking at the graphs of the provision for income taxes, the difference between the two technology companies (Apple and Microsoft) is greater than the difference of the pharmaceutical companies (Pfizer & Merck). This is true because the number is a gross number and is not a portion of revenue.



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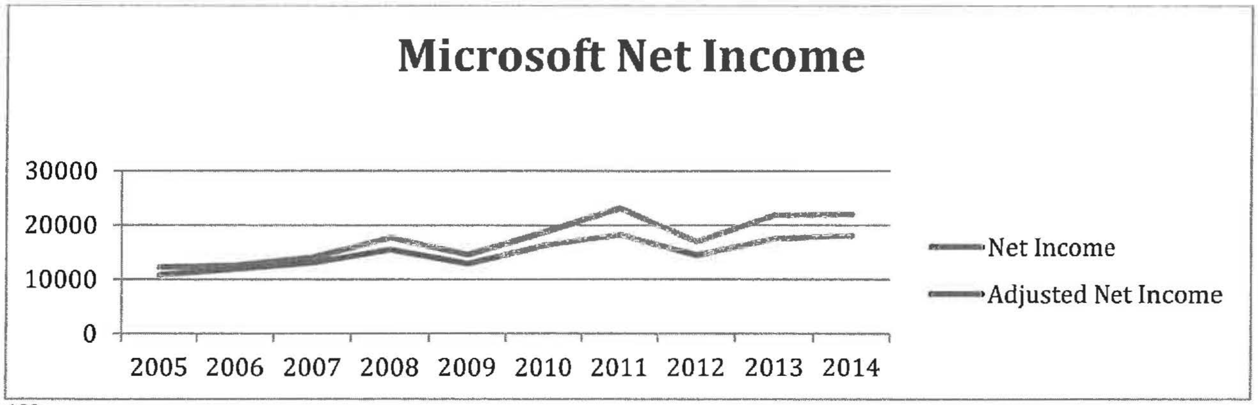
[161] Morningstar, "Merck & Co Inc," Income Statement for (MRK) from Morningstar.com, 2015, accessed February 22, 2015, http://financials.morningstar.com/income-statement/is.html?t=MRK.
[162] Ibid, Apple



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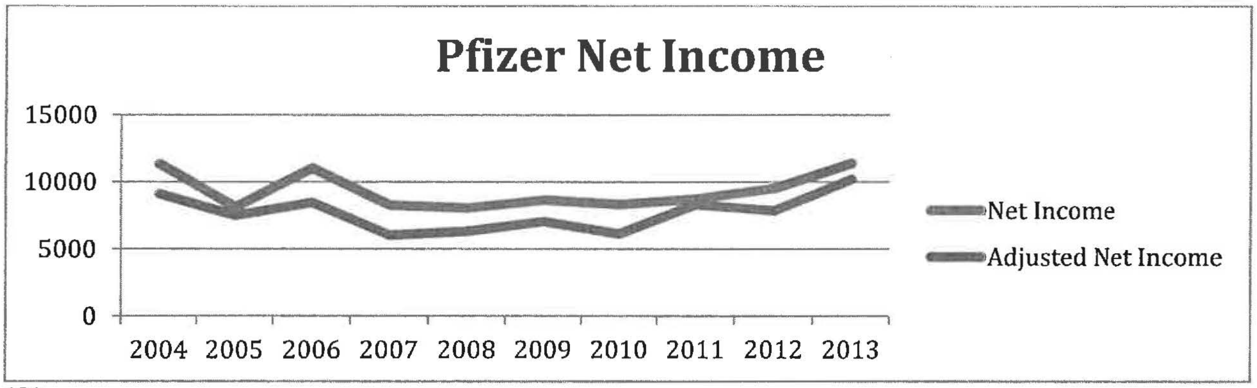

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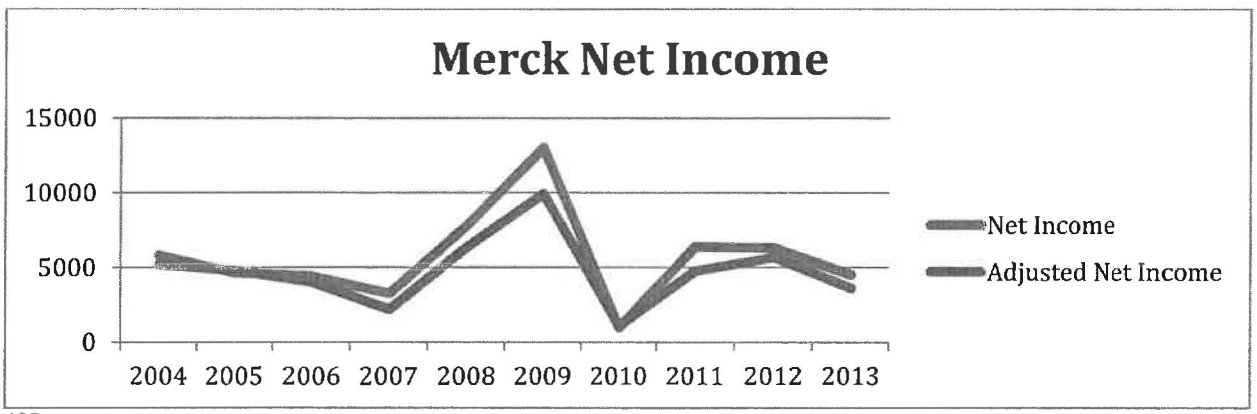

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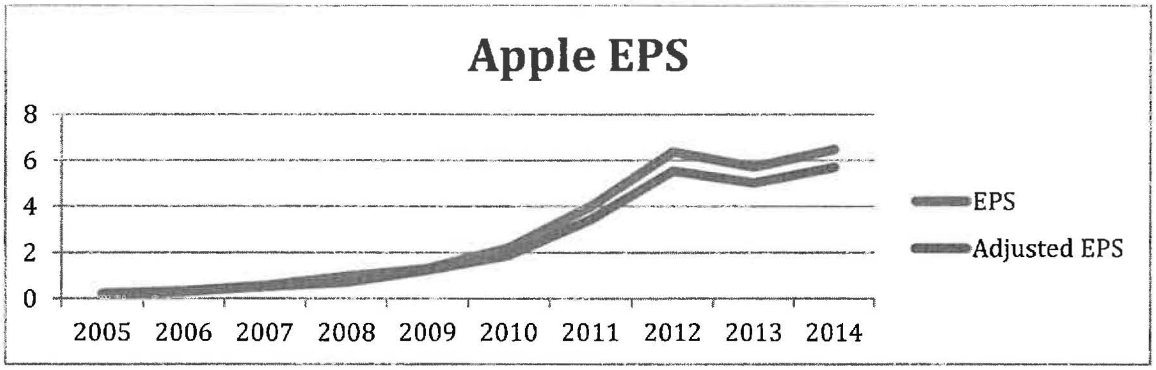
[163] Ibid, Microsoft
[164] Ibid, Pfizer
[165] Ibid, Merck



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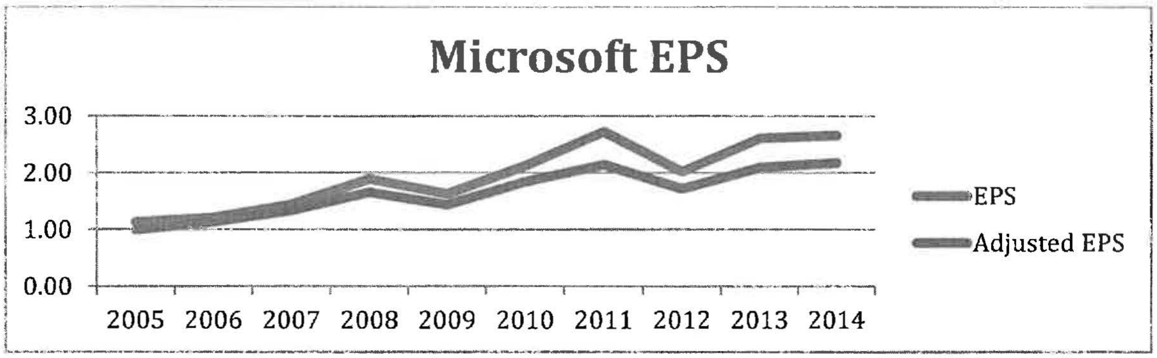

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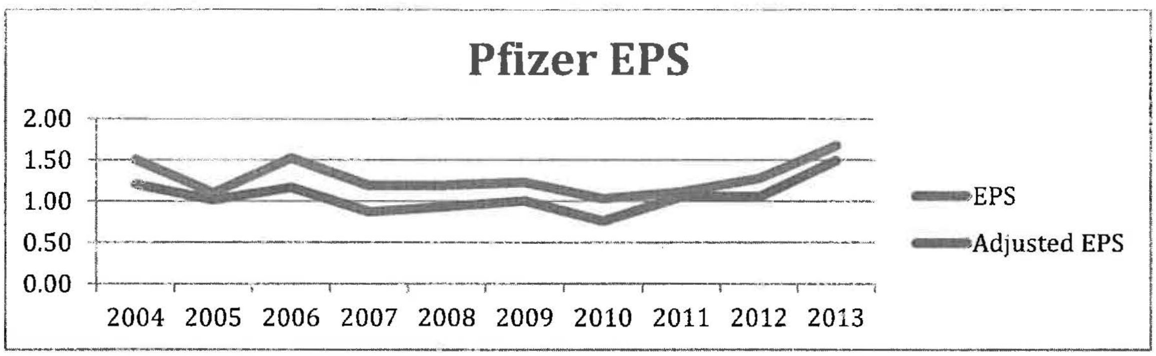

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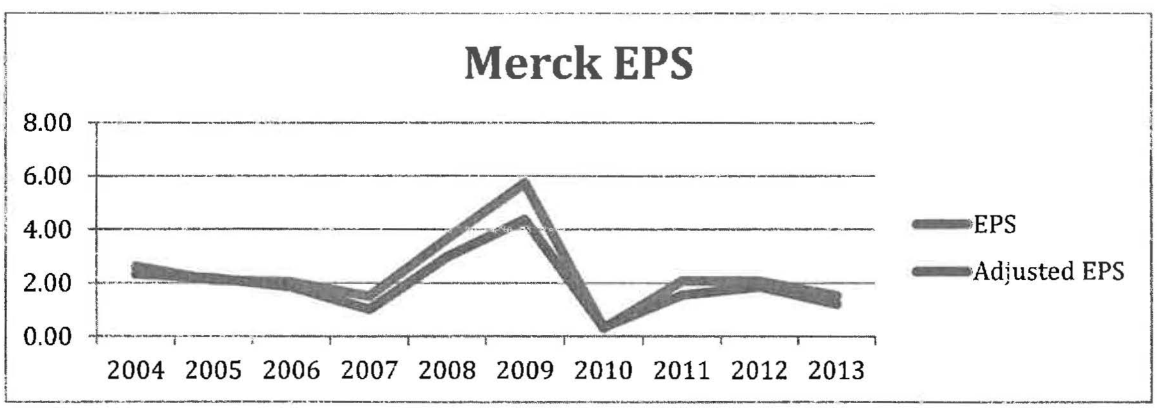

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[166] Ibid, Apple
[167] Ibid, Microsoft
[168] Ibid, Pfizer

As illustrated the actual and adjusted net income had an impact on earning per share, and it made a larger impact on the technology companies than on the pharmaceutical companies. Corporations are doing what they need to in order to avoid paying a high US corporate tax rate and transfer pricing seems to be the preferred method for many large corporations.

In addition to my actual an adjusted analysis of corporations with regard to transfer pricing I have looked at the financial statements and watched the House Ways and Means Committee question Apple regarding their tax avoidance schemes. Accepting to be questioned by the Committee was Apple's choice and they did so willingly and provided full explanations for their tax avoidance schemes. The Committee's goal from the meeting was to achieve an understanding of how Apple avoids the US tax laws in order to close the loopholes and understand that the corporations reasoning for leaving profits overseas.

When Apple incorporated in 1980 they set up two international subsidiary's which are Apple Sales International (ASI) and Apple Operations Europe(AOE). AOE and ASI are corporations which are legal, and are incorporated in Ireland, which is considered to be a tax haven by the US government. The two subsidiary companies are also fully owned by Apple, and they own the patents to many of their products and future products. AOE and ASI are then used as corporations while hold all of Apple's overseas cash, and Apple has no intentions of bringing any of the cash back to the United States at any point in time. They have enough cash in the United States and do not need the cash. The Committee questioned Apple's ethical and moral obligation to pay their fair share of taxes just like the everyday US taxpayer, and they have stated that they are

[169] Ibid, Merck

paying their fair share of taxes, while creating great products for the consumers, creating manufacturing facilities in the US, opening a new headquarters in Cupertino, California, while providing retail positions in all 50 states. Apple feels that they have done their fair share of providing for the US government and the consumers in the United States, and are interested in a tax reform, which could help all companies[170].

Limitations of my Research

Transfer pricing is a difficult subject matter which many nuances and details which only the executives, auditors, and tax advisors may fully understand. In addition there is not too much information on how transfer pricing is performed in different situations, and my research was limited to what was in the financial statements, and in the interviews with the House Ways and Means Committee.

Professional Interviews

As part of the research paper I have decided to interview individuals who have the perspectives of the auditor, enterprise, and user. I asked them a series of questions which can be found attached to the final paper. Below is a summary of my findings and what was most applicable to this paper.

Chip Morgan

Chip Morgan was an international partner at Ernst & Young LLP and PwC who then decided to work for numerous companies where his position was the VP of Tax and CFO. He also worked for a company called Kofax, which is small company who Mr. Morgan helped go through a tax inversion. His current position is a Managing Director of

[170] C-SPAN, "Apple Testimony," C-SPAN.org, May 22, 2013, accessed February 22, 2015, http://www.c-span.org/video/?c4452681%2Fapple-testimony.

tax at BDO. Due to his extensive background at an accounting firm and in the field, he was able to give me the perspective of an auditor and management (enterprise).

The first part of our discussion revolved around the difficulties an auditor might face during an audit of a company who has gone through an inversion. Chip responded by saying that auditors are used to a certain layout and format for an audit. Generally United States companies are considered to be the head of any corporation. However when dealing with a company that has gone through an inversion, auditors forget that they are no longer the parent company. He also described that when reviewing the financial statements it becomes much trickier and overall it becomes more opaque. I asked a follow up question about the amount of dividends the companies pay, and how much it matters. Chip responded by saying that overall, investors either care a lot about dividends, or they do not care at all. The companies who go through inversions often do not pay dividends and shareholders are okay with that fact because the money is reinvested back into the company. The reinvestment in the company drives up the stock price, which is how shareholders benefit instead of through dividends.

The next part of our discussion involved the benefits which an inversion may offer. I asked how it may affect the stock price of a company. He said in his opinion it would not affect the stock price. Tax is considered a cost and investors care about the value and future earnings of a company. Then I asked whether or not management uses tax inversions as a method of earnings management. He responded that many corporations take an aggressive stance on tax costs, which means they tend to overestimate the amount of income tax expense, and they create a reserve fund in order to protect the company from future unexpected costs. In Chip's opinion, the reserve fund is something that is looked into by the SEC and it could be a way for management to manage earnings.

The next topic we discussed was the amount of operations a company is required to put into a tax haven. He said that in order for a tax inversion to work there has to be some form of substance in the company which they are inverting to. He described the situation as the more management in the new country, the better. However, it is up to management to decide how much substance to create in another country, but they must decipher between risk and reward, because it is extremely expensive to start a new entity in another country, especially in Europe. Often times companies run into problems with the new government, legal systems, and operating cycles. The general problem of inversions is how expensive they are to set up and maintain, especially when it comes to hiring and firing individuals across the world. Generally, management is put between a rock and a hard place when deciding how much substance to create in a foreign country.

The last few questions I had for Chip were about how worried management is about upcoming legislation preventing inversions, and his opinion on the matter of tax inversions. In Chip's opinion, management is not worried about the US government coming up with a solution to tax inversions in the next two years due the difference of opinion in government between the two parties. He realized that unless there is a complete rewrite of the tax code, the government will continue to close loopholes, and accountants, lawyers, and companies will continue to find more loopholes.

As we wrapped up the interview, I asked him his opinion on the matter. He said that the effective tax rate of the United States is higher than most first world countries, but not by too much. However, the fact that the United States taxes the earnings of foreign subsidiaries makes the incorporation tough for many companies because they pay a double tax, where the revenue is earned and in the United States. In his opinion, lowering the corporate tax rate to the mid 20's will helpful to prevent companies from inverting, but the real incentive is to stop taxing US corporations on foreign earnings.[171]

Neal Waner

Neal Waner is someone who has been in personal finance for his entire life. He specializes in banking, estate tax, estate planning and works for Redlands Unified School District, and the San Bernardino Foundation. He graduated from San Diego State University in 1996 with a degree in personal finance. He deals with complex individuals and invests over $177 million.

Neal is familiar with tax inversions and transfer pricing, however as a user of the financial statements, he is not completely aware of how they affect the bottom line. Overall he understands the idea that the increase in profitability is all that matter for a company and its investors. Generally, investors do not care how a company makes its money, but rather that they make money. The one condition is that the company does so in an ethical manner, and there is nothing illegal about it. He understands that this subject is a fine line between ethical and illegal operations. However we discussed how Warren Buffet and Mitt Romney have been able to avoid the American income tax by creating an offshore parent company. But he realized that it is expensive and 99% of Americans are unable to do what these wealthy individuals can. Neal said that the

[171] Chip Morgan, "Managing Director of Tax at BDO LLP," interview by author, January 20, 2015.

easiest way to disincentive inversions is to reduce the corporate tax rate. He concluded by saying what drives the stock price is expected earnings and tomorrow's profit; nothing else does matters.

The second part of our interview was an investigation into a few of these companies, which is part of what I will be doing for my original research. I told him about my research and he sounded interested and together we started digging around for about thirty minutes. For the few companies he looked at he found no trend, and was often confused by the results of the inversion. He concluded by indicating that this is an interesting subject and as an investor, he would like to know what my results are.[172]

Potential Solutions

Legislative Approach

The Legislative approach is one that the President's 2015 budget proposal includes. The proposal would modify the 80% and 60% test enacted in the American Jobs Creation Act to a 50% test. The proposal would require management to relocate out of the United States and significantly reduce the amount of business activity in the United States. In addition to the President's proposal, Representative Levin of the House Ways and means Committee introduced a bill called the Stop Corporate Inversions Act of 2014, which would reflect all of the changes above and make it retroactive to May 2014. With the new proposed new act, if 25% of the operations are still in the United States, or if 50% of the shareholders are in the United States, an inversion would not be recognized.

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[172] Neal Waner, "Certified Financial Planner, Parter at Stout Payne Waner," interview by author, January 30, 2015.

On February 2, 2015 the White House and President Obama announced the budget for 2016. Part of the proposed budget includes a corporate tax reform. Obama and the White House suggested a drop in the corporate tax rate from 35% to 28% while imposing a 19% tax rate on all foreign earnings, which is almost half of what it used to be.[173] President Obama also introduced a 25% corporate tax rate for manufacturing companies. Also included in the 2016 budget proposal is a second tax holiday which would allow companies to repatriate their earnings and profits parked overseas at a 14% rate.[174]

Passing anything in the proposed budget will be very difficult for President Obama, due to the fact that the House and Senate is controlled by Republicans. However, the topic of slashing corporate tax rates is one, which both parties agree upon. However the one part of the bill that is the most controversial is 14% tax holiday, in part due to the history, and in part due to what the funds will be used for. Obama is using $478 billion to help fix and repair the domestic infrastructure of United States. About half of the funds will be coming from Highway Trust Fund, and the other half will come from the 14% repatriation of funds from companies who have parked their funds offshore. As of right now there is an estimated $2 trillion offshore, and 14% of that is about $280 million, but the US government is assuming that not all of the companies will repatriate all of their funds. From a "birds eye" point of view it seems that the United States is taking active steps to attempt to prevent inversions by becoming more tax friendly. The fact remains that there are countries who have more tax friendly rules than

[173] Nick Timiraos and John D. McKinnon, "Obama Proposes One-Time 14% Tax on Overseas Earnings," WSJ, February 2, 2015, accessed February 19, 2015, http://www.wsj.com/articles/obama-proposes-one-time-14-tax-on-overseas-earnings-1422802103.
[174] Ibid

the United States, but with these proposed tax rates in place, companies will have to put more thought into whether or not it is worth the cash, risk, and trouble of inverting.[175]

Japan as a Model

Japan has a law called the Tax Haven Counter Measure Law (THCML), and its job is to do exactly what it says; prevent tax avoidance. The THCML applies to any Japanese subsidiary in a low tax jurisdiction with a rate of 20% or less.[176] This means that the parent company (presumably Japanese) is taxed on the earning of the foreign subsidiaries. Thus, Japanese companies cannot set up subsidiary companies to hold copyrights, patents, leases or any other form of property that they then lease back to the parent company for a fee, which lowers their taxable profits in Japan.[177]

In addition to the THCML, Japan entertains the concept of "Economic Logic".[178] Economic Logic is used to deny special treatment to companies in tax havens. This means that if the business could reasonably be carried on in Japan, the "economic logic" of them being offshore is lacking and unwarranted and is therefore denied. There are four exceptions to this rule, which allow companies to set up legitimate businesses even in countries with lower corporate tax rates. Both of these laws were implemented in the 1970's.[179] All Japanese companies follow the same laws, and their corporate tax rate is about 39%, which is higher than the United State, United Kingdom and above the average of the OECD countries, however Japanese countries have not had a problem

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[175] Ibid
[176] Canadians For Tax Fairness, "Japan Shows How We Could Stop Corporations from Evading Taxes by Using Tax Havens," Japan Shows How We Could Stop Corporations from Evading Taxes by Using Tax Havens, 2014, accessed December 13, 2014, http://www.taxfairness.ca/en/news/japan-shows-how-we-could-stop-corporations-evading-taxes-using-tax-havens.
[177] Ibid
[178] Ibid
[179] The Japan Tax Site, "Japanese Tax Haven Rules (CFC, Subpart F) – Overview/タックスヘイベン対策税制," The Japan Tax Site RSS, March 15, 2010, accessed December 13, 2014, http://japantax.org/?p=590.

when it comes to competing globally.[180] Japan is a unique country which has laws protecting the country from tax saving schemes.

Areas of Further Study

Throughout my research the topic of tax avoidance there are areas, which could be explored further. The area is to perform expert interviews on various individuals who have audited companies who perform transfer pricing in various industries such as pharmaceutical and technology. With regard to tax inversions there are various areas of research. The most expansive one is researching all companies who are public and private and understanding the rate of success over time. Meaning, that one would need to look at the first inversion and deem if they were successful or not, and understand overall if an inversion is a successful method of performing tax avoidance. Tax inversions is an expansive topic with lots of room for research because the only clearly defined trend is that companies are performing the techniques, but very few people have evaluated if they are successful and smart business decisions.

[180] Ibid

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Appendix A –Questions For Interviews

1. I wanted to get your background and your history.

2. How does Tan Inversions affect CEO compensation?
    a. There have been reports filed online that have found a correlation between the increase of compensation and a successful inversion. In your experience in the field, has a successful inversion had any impact? I wanted to get your thoughts on this subject?

3. Besides the tax savings, what other benefits does an inversion offer?
    a. Does the stock go up?
    b. Do they meet earnings – IN your experience has this tactic been used to meet earnings expectations of exceed them? Is it possible that it is broadly ignored if analysts use EBITA?
    c. Is it possible that there are more motives besides tax savings and cash flow? What would they be?

4. When auditing a company what difficulties may arise when looking at an inversion?
    a. How do foreign tax policies affect the audit and tax procedures.

5. How do companies pay their shareholders when most of the profits are offshore?
    a. Can you explain more in depth what happens with regard to dividends?

6. In your discussions with management, how worried are executives about upcoming US legislation preventing inversions?
    a. How will companies react to US legislation preventing inversions?

7. Management is probably in favor of a corporate tax reduction, do you think it will prevent them from inverting?
    a. Do you think this is the answer to preventing inversions all together?

8. In your opinion, what do you think the best method of preventing inversions is?

9. In your opinion, what do you think the US Corporate tax rate should be?

10. What industries do you see as a likely candidate for an inversions?

11. What are the implications if any that a state has on a corporation, and how does it affect tax inversions and transfer pricing? ? i.e. if I am a CA corporation, does this reduce the state income taxes as compared to transfer pricing?